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PHYSIOLOGY AND MODERN SURGERY*

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A surgeon, like a practitioner of any branch of medicine, is in a sense a biologist, for he is dealing with living tissue. The mechanical features of surgery have often been too much glorified. They are, to be sure, important, but a knowledge of the physiologic processes in the human body is equally essential. A patient who dies because the surgeon transplanted the ureters into the small intestine, where absorption is rapid, instead of into the rectum or sigmoid, whose function is chiefly receptacular, is just as dead as one who succumbs because of a defective intestinal suture or a poorly tied blood vessel.

Successful surgery does not mean just the skilful mechanical performance of an operation. It is something even more important than this. It involves the consciousness of the surgeon that the technical steps are not an end in themselves but are more or less important guides toward the correction of abnormal processes in living tissue. An appreciation of function presupposes, of course, a knowledge of structure, but a knowledge of structure alone, as of anatomy, may sometimes give an inadequate conception of the real function.

Tissue that from a structural standpoint apparently might substitute for other tissue in repairing defects cannot always be successfully used because of the absence of qualities which tend to adapt tissues to other than their normal environment. For example, attempted reconstruction of the ureter with fascia occasionally results in the fascia being converted into bone, not merely the deposit of calcium salts but the actual histologic structure of bone. Repair of the common bile duct with a segment of a vein, while from an anatomic standpoint seemingly suitable because the nutrition of the thin wall of the vein can be easily maintained, does not succeed, for the wall of the vein becomes irritated by the bile and cicatricial contraction ensues. Tissues accustomed to the presence of bile, as from the duodenum, are better substitutes for the duct than the thinner structure whose function is quite different. The ribs and costal cartilage, which have the static function of maintaining the general form of the chest similar to the function of the bones that preserve the contour of the face, furnish a graft that is more likely to be permanently successful when placed in the nose than a transplant of bone from the leg, where the function is not so static but is subject to quick changes of stress and strain.

Specialism in medicine has advanced knowledge in many respects, but too strict specialism is not without its disadvantages. The arbitrary division of patients into medical and surgical cases is fraught with some danger. Unless one who deals with disease has a broad conception of the underlying biologic processes that go on normally, he cannot hope intelligently to correct the abnormal processes—and this is equally true whether the case is surgical or medical. The particular treatment that is employed in the individual case should be indicated by the phenomena of the disease, and not by the desires of the practitioner. Some one has said that a specialist is one who "knows more and more about less and less." Such an intensive study and a progressively contracting field will often illuminate a single point and show facts that have not heretofore been discovered, but it is also possible that the proper proportion of the other features of the case may be distorted by the intense application in one limited region.

Modern surgery is always associated with the name of Lister, who undoubtedly is the father of modern surgery. But Lister's part in the important rôle he has played was not merely accidental. Sir Clifford Allbutt has said, "Though Lister saw the vast importance of the discoveries of Pasteur, he saw it because he was watching on the heights; and he was watching there alone." In an address by Prof. John Tait [1] on "Lister as Physiologist," attention is called to the fact that from his earliest career Lister was interested in experimental work particularly in experimental physiology. In his Huxley lecture in 1900, Lister said that at the University College he was attracted by the lectures of Dr. Sharpey, the professor of physiology, and these lectures inspired in him a love of physiology which never left him. The quantity and quality of Lister's investigations in pure physiology are remarkable, and Tait calls attention to the fact that this work of Lister's has often been overlooked. Much of his physiologic research was done with the help of his wife in the back kitchen of the dwelling in Rutland Street in which they started housekeeping. Like John Hunter, he was an inveterate worker and secured a large part of his material from the butchers. His researches were thorough, well thought out and carefully executed. They included investigation into the structure of plain muscle and of nerve fibers, the method of the flow of lacteal fluid in the mesentery, the nervous control of the arteries, the function of the nerves to the viscera, the phenomena of inflammation and of coagulation of blood, and the cutaneous pigmentary system of the frog. His research on the coagulation of the blood was typical of his work. This problem has not yet been definitely settled, and has always attracted attention. In Lister's time one of

* Chairman's address, read before the Section on Surgery, General and Abdominal, at the Seventy-Ninth Annual Session of the American Medical Association, Minneapolis, June 14, 1928.

1. Tait, John: Lister as Physiologist, Science **66**: 267-272 (Sept. 23) 1927.

the outstanding theories of the coagulation of the blood was that it was due to the escape of a small amount of ammonia which was supposed to be constant in the blood stream. In order to determine whether this was true, he constructed an apparatus consisting of rubber tubes connecting short segments of glass tubes. One end of this was inserted into a vein and the blood was allowed to flow through, when the rubber tubes connecting the glass segments were quickly tied, thus preventing the escape of any ammonia that might have been present. When the blood coagulated quickly under these conditions it showed that it was not due to the escape of ammonia. He then studied the influence of an endothelial lining on clotting and the effect of foreign bodies on the blood. While the problem of coagulation has not yet been completely solved, Lister dispelled many of the fallacies held during his time as to the conception of coagulation of the blood.

His studies concerning inflammation and his application of Pasteur's discoveries to surgery were a direct and logical result of his physiologic and pathologic investigations. It was not, then, accidental that Lister was able intelligently to apply the discoveries of Pasteur to surgical operations.

It is impossible in the proper limits of an address even to mention all the many instances of the effects that physiologic discoveries have had on the practice of modern surgery. Researches concerning the typing of blood for transfusion, the biochemistry of the blood stream, the action of the reticulo-endothelial system, and the effect of continuous intravenous infusion of dextrose solution, as brought out by Matas, have had a wide range of clinical usefulness. The continuous intravenous injection of a solution of pure dextrose in freshly distilled water, or with the addition of sufficient salts to make a Ringer's solution, is often a life-saving procedure. The injection of insulin at intervals, in order to prepare the body cells for the injected dextrose when the vitality of the tissues is at such a low ebb that insulin cannot be readily produced by the pancreas, is a valuable addition.

The method of promoting collateral circulation by the malleable bands of Halsted and of Matas, and the operation of von Oppel in threatened gangrene from arterial diseases in which the main vein is tied in order to keep the arterial capillaries filled with their blood for a longer time, are valuable researches. The operation of Dean Lewis,[2] in which the femoral artery is ligated below the profunda in order to increase the collateral circulation of the profunda in certain instances of threatened gangrene of the foot, shows the value of a knowledge of the circulatory changes that occur after arterial obstruction. A study of the process by which the blood supply to tissue may be built up has been of great value in plastic surgery. Blair [3] and others have shown that the immediate transference of a flap even by the most skilful and gentle dissection, throwing the circulation at once on the pedicle, is often followed by gangrene of the flap. When, however, the dissection is made in stages and the circulation through the pedicle is gradually developed, the vitality of the flap will usually be maintained.

A knowledge of the biologic processes that go on around a foreign body in bone shows that the irritation by such a foreign body usually causes an absorption of the surrounding calcium salts in nature's effort to free the bone from the fixed foreign substance. A proper conception of this phenomenon has brought about one of the outstanding changes in surgery of the bone from the blacksmithing in which rivets, steel plates and screws were used in fractures. These create osteoporosis and, in spite of the accurate mechanical coaptation, tend to produce nonunion instead of union. Bone grafts, even though slender and though the immediate mechanical effect may be inferior, give eventually better results than the more accurate adjustment in which foreign bodies of steel are used.

The unfortunate effect of the disregard of physiologic function in surgical operations is seen in the number of instances in which fifteen or more years ago the colon was excised to cure chronic cystic mastitis, goiter or tuberculosis. While undoubtedly there are organic diseases of the colon aside from cancer which demand resection of this bowel, the removal of a colon that shows little disease for the purpose of curing such unrelated diseases as those mentioned was, to say the least, illogical and can hardly by any stretch of the imagination have any basis in disturbed physiologic function.

One of the most striking examples of the influence of physiology on modern surgery is in the gastro-intestinal tract. The researches of Cannon,[4] Carlson,[5] Ivy,[6] Luckhardt,[7] the Dragstedts,[8] Alvarez,[9] Klein,[10] Mann,[11] Morton [12] and others have changed many of the old conceptions of surgery of the stomach and intestine. We know now that hunger pains are accompanied by a contraction of the empty stomach—that peristaltic waves which concern the right half of the stomach are probably initiated along the lesser curvature near the esophagus and proceed as ripples to the middle of the body of the stomach, when they first become visible to fluoroscopic examination. We know, according to Carlson, that there is no such thing as hyperacidity of the gastric juice—that the normal gastric juice contains a maximum of 0.5 per cent of hydrochloric acid. The regurgitation of the alkaline duodenal contents into the stomach toward the end of digestion is a normal process and tends to lessen the acidity of the gastric juice.

2. Lewis, Dean; and Reichert, F. L.: Collateral Circulation in Thrombo-Angiitis Obliterans: Indication for Ligation of Femoral Artery Just Distal to Profunda, J. A. M. A. **87**: 302-304 (July 31) 1926.

3. Blair, V. P.: The Delayed Transfer of Long Pedicle Flaps in Plastic Surgery, Surg. Gynec. Obst. **33**: 261-272 (Sept.) 1921.

4. Cannon, W. B.: Peristalsis, Segmentation and the Myenteric Reflex, Am. J. Physiol. **30**: 114-128, 1912. Cannon, W. B., and Murphy, F. T.: The Movements of the Stomach and Intestine in Some Surgical Conditions, Ann. Surg. **43**: 519-520, 1906. Cannon, W. B., and Blake, J. B.: Gastro-Enterostomy and Pyloroplasty, ibid. **41**: 686-711 (May) 1905. Cannon, W. B., and Washburn, A. L.: An Explanation of Hunger, Am. J. Physiol. **29**: 441, 1912. Cannon, W. B.: The Mechanical Factors of Digestion, International Medical Monographs, London, Edward Arnold, 1911.

5. Carlson, A. J.: The Control of Hunger in Health and Disease, Chicago, University of Chicago Press, 1916; Secretion of Gastric Juice in Health and Disease, Physiol. Rev. **3**: 1-40 (Jan.) 1923.

6. Ivy, A. C.: Contributions to the Physiology of the Stomach, Arch. Int. Med. **25**: 6-31 (Jan.) 1920; The Newer Physiology of the Gastro-Intestinal Tract, Am. J. M. Sc. **173**: 453 (April) 1927. Ivy, A. C., and Farrell, J. I.: Contributions to the Physiology of Gastric Secretion, Am. J. Physiol. **74**: 639-649 (Nov.) 1925. Droegemueller, E. H., and Meyer, J. L.: Effect of Experimental Pyloric Stenosis on Gastric Secretion, Arch. Int. Med. **40**: 434-445 (Oct.) 1927.

7. Luckhardt, A. B.; Phillips, H. T., and Carlson, A. J.: Contributions to the Physiology of the Stomach: The Control of the Pylorus, Am. J. Physiol. **50**: 57-66 (Oct.) 1919.

8. Dragstedt, L. R.: Blood Chemistry in Intestinal Obstruction, Proc. Soc. Exper. Biol. & Med. **25**: 239-241 (Jan.) 1928; Factors Controlling the Intestinal Bacteria, J. Infect. Dis. **31**: 209-214 (Sept.) 1922. Dragstedt, L. R.; Cannon, P. R., and Dragstedt, C. A.: Intestinal Obstruction, ibid. **27**: 139-144 (Aug.) 1920. Dragstedt, L. R., and Vaughan, A. M.: Gastric Ulcer Studies, Arch. Surg. **8**: 791-820 (May) 1924.

9. Alvarez, W. C.: The Mechanics of the Digestive Tract, New York, Paul B. Hoeber, 1922; Bayliss and Starling's Law of the Myenteric Reflex, Am. J. Physiol. **69**: 229-248 (July) 1924. Alvarez, W. C., and Mahoney, Lucille J.: Peristaltic Rush in the Rabbit, ibid. **69**: 211-225 (July) 1924.

10. Klein, Eugene: Gastric Motility: I. The Origin and Character of Gastric Peristalsis, Arch. Surg. **12**: 571-582 (Feb.) 1926; Gastric Motility: II. The Conduction of the Gastric Peristaltic Wave, ibid. **12**: 583-590 (Feb.) 1926.

11. Mann, F. C., and Williamson, C. S.: The Experimental Production of Peptic Ulcer, Ann. Surg. **77**: 409-422 (April) 1923.

12. Morton, C. B.: Observations on Peptic Ulcer: I. A Method of Producing Chronic Gastric Ulcer: A Consideration of the Etiology, Ann. Surg. **85**: 207-222 (Feb.) 1927; Observations on Peptic Ulcer: II. A Roentgenologic Study of Experimentally Produced Chronic Ulcers, ibid. **85**: 222-229 (Feb.) 1927.

V 90
1928

The chief alkaline material in the duodenal contents is the pancreatic secretion, and this, too, is affected to some extent by the quantity of acid in the stomach.

Obstruction at the pyloric end of the stomach may be organic, as from a stricture, or from excessive spasm. Anything that prolongs the contact of food with the gastric mucosa tends to increase the quantity of gastric secretion. Ivy has shown experimentally that after a pyloric stenosis there may be a temporary decrease in gastric secretion, probably partly from dehydration, and after this usually gastric secretion increases. The gastric secretion is due, among other things, to the contact of food and its digested products with the gastric mucosa, to mechanical distention, and also to the action of the expelled gastric contents on the intestinal mucosa. It is therefore readily seen that incomplete obstruction at the pylorus will increase the secretion of the gastric juice by prolonging the contact of food with the gastric mucosa, by the distention of the stomach, and by the slow ejection of chyme from the stomach, which thereby prolongs the contact of chyme with the intestine and so gives a reflex for a longer time.

Olch and Elman [13] have demonstrated experimentally that reduction of the normal tone and spasm of the pylorus by resecting the vagus nerve, as done by Walter Hughson [14] in pylorospasm, makes not only a quicker emptying time of the stomach in the experimental animal but also more rapid neutralization of the acid of the gastric juice. They conclude as follows:

> We next subjected normal animals to either gastroenterostomy, Polya-Balfour resection, or pyloroplasty. In all these instances there is decreased emptying and quicker neutralization, and this is particularly the case following pyloroplasty or resection. The neutralization in the gastroenterostomy was about the same as after vagotomy.

This work seems to show that much of the lowering of acidity of the gastric juice after operation on the stomach is due to a more abundant reflux of the alkaline contents of the duodenum into the stomach.

The Portises [15] made a Pavlov pouch from the cardiac portion of the stomach in three dogs and later did a subtotal gastrectomy. Observations on the stomachs of these dogs at intervals for several months showed for each animal the absence of free hydrochloric acid but high combined acidity, while the secretion from the Pavlov pouch gave free hydrochloric acid both before and after gastrectomy. They conclude that the absence of free acid in the stomach after partial gastrectomy is due to neutralization of the acid by the duodenal contents, and also to the more rapid emptying of the remaining stomach after subtotal gastrectomy.

The well known experiments of Mann demonstrated that so-called duodenal surgical drainage in which the duodenal contents, including its chief alkaline constituent, the pancreatic juice, are side-switched and the jejunum lower down is connected with the stomach, is usually followed by a typical peptic ulcer in the bowel united to the stomach. Morton has shown that the gastric mucosa heals less readily and that gastric peptic ulcer in a dog often occurs after injury to the gastric mucosa when this duodenal surgical drainage has been done, whereas in control animals similar injuries to the gastric mucosa heal promptly.

Operations, then, which tend to deprive the segment of bowel united to the stomach of the protective influence of alkaline duodenal contents, or which remove the influence of the regurgitated duodenal contents on the gastric juice, are unphysiologic and seem to predispose toward ulcer of the bowel that is joined to the stomach or of the stomach itself. Operations that permit the abundant reflux of duodenal contents into the stomach tend to lower the acidity of the gastric juice, so that the absence of acid in the gastric juice after partial gastrectomies may be due not solely or chiefly to the removal of some of the acid-bearing tissue but to the more ready access of the duodenal contents to the cavity of the stomach.

In considering intestinal obstruction the difference in the normal behavior of the upper small intestine and the lower small intestine and the colon has been too frequently ignored, though it has long been a clinical observation that obstruction from a malignant growth in the large bowel is much better borne by the patient than obstruction in the upper bowel. The difference in peristalsis, and in digestion and absorption of the normal contents of the upper small bowel and of the lower small bowel and the colon, bears on this problem. The work of Haden and Orr [16] in showing that obstruction in the upper small intestine is accompanied by marked destruction of proteins and a drop in the blood chlorides is valuable. The restoration of the chlorides of the blood as shown by them in acute obstruction of the upper small intestine is usually followed by rapid improvement of the patient and doubtless makes such changes in the perverted metabolism as would tend to counteract the effect of the toxic material from the intestinal obstruction.

Dragstedt has shown that toxic secretions in fluids of intestinal obstruction are powerful secretagogues, and when injected into dogs cause considerable increase in the secretion of the pancreas, the stomach and the intestine. According to Dragstedt it seems probable that the fall in blood chlorides in intestinal obstruction is due to the easy passage of the chlorides into the alimentary canal and their failure to be reabsorbed. The histamine-like products found in intestinal obstruction are present in a closed loop of obstructed bowel. The injection of histamine into dogs produces symptoms resembling those that occur after the injection of the fluids of intestinal obstruction.

The clinical bearing of the recent studies of the physiology of the sympathetic nervous system has not yet been properly evaluated. The rôle of the sympathetic nerves in the transmission of pain, in the production of relaxation or of spasm in smooth muscular tissue, and in postural conditions in striped muscle is beginning to be appreciated by surgeons. While much unwarranted enthusiasm has arisen in the clinical application of some of this knowledge, undoubtedly surgical progress has been made in this direction. In properly selected cases the pain from angina pectoris has been relieved by operation on the cervical sympathetics; some cases of arterial spasm appear to have been benefited by "sympathectomy," or the removal of the adventitia of the large arteries, and recently Judd and Adson [17] reported remarkably beneficial results in two cases of Hirschsprung's disease in children after exci-

13. Olch, I. Y., and Elman, Robert: Regurgitation of Duodenal Contents as Factor in Neutralization of Gastric Acidity, Proc. Soc. Exper. Biol. & Med. **25:** 184-186 (Dec.) 1927.

14. Hughson, Walter: Reflex Spasm of the Pylorus and Its Relation to Diseases of the Digestive Organs, Arch. Surg. **11:** 136-151 (July) 1925.

15. Portis, S. A., and Portis, Bernard: Effects of Subtotal Gastrectomy on Gastric Secretion, J. A. M. A. **86:** 836-839 (March 20) 1926.

16. Haden, R. L., and Orr, T. G.: Use of Sodium Chloride in Treatment of Intestinal Obstruction, J. A. M. A. **82:** 1515-1517 (May 10) 1924; Effect of Inorganic Salts on Chemical Changes in Blood of Dog After Obstruction of Duodenum, J. Exper. Med. **39:** 321-330 (Feb.) 1924.

17. Judd, E. S., and Adson, A. W.: Report of Our Experiences in Lumbar Sympathetic Ganglionectomy for Hirschsprung's Disease, read before the American Surgical Association, Washington, D. C., May 1, 1928.

sion of the lumbar sympathetic ganglions. The cause of cardiospasm of the esophagus and of some dilatations of the duodenum may be due, as has been suggested by Devine [18] of Australia, to a derangement of a part of the sympathetic nervous system, which will necessitate a different method of surgical therapy from that now employed.

These are only a few of the many instances of the direct bearing of physiologic research on surgical progress. They are sufficient, however, to demonstrate the need of a knowledge of the biologic processes in the human body by any one who attempts to restore health, particularly if such a restoration involves mechanical procedures which because of their very obviousness may obscure the biologic principles underlying them.

HISTORY TAKING AND PHYSICAL EXAMINATION IN DIGESTIVE DISORDERS *

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When a patient comes to a physician for the first time he places on him a heavy responsibility; under certain conditions the heaviest a human being is called on to bear. Two questions, implied or expressed, must be answered if the patient is to be repaid for his confidence and outlay: What ails me? What must I do to be cured? The conscientious physician looks on these questions as a challenge which can be met only by a true diagnosis and clear-cut, helpful advice. Such a diagnosis is a problem in logic, no less rigorous and exacting than a problem in any of the natural sciences. The difference consists in the elusiveness and multiplicity of the medical premises. The physician's end and aim is exactly like that of the astronomer, the mathematician or the physicist—to find the truth.

In the study of a case the history is all-important, not only for the diagnosis but also for the psychologic understanding of the patient. But the taking of a history is not child's play. It is a real art, difficult to acquire. While the truly first rate medical historian, like the poet, is born, not made, nevertheless, by practice and by cultivating sympathetic listening, any conscientious physician can become a reasonably good historian. The young physician is apt to leave the hospital weary of history taking and with the quasiconviction that it is of no great consequence. The sooner he overcomes this repugnance the better.

The history should be taken in a quiet room and there should be no interruptions. The patient must receive the impression that the physician has all the time in the world to listen to his story. This is especially important in that large group of cases called "nervous dyspepsia." While listening to the history, he must consciously and subconsciously strive to fathom the psychology of the patient.

But, in order to take a satisfactory history, the physician must be more than a patient listener; he must know the physiognomy of disease, so that he may frame his queries intelligently and avoid irrelevant questions. He must know what he is trying to elicit. I do not mean thereby that, like the physician in Shaw's play, he should have a preconceived notion of what he wants to find. That is one of the charges brought against medical specialists.

If the history is carefully taken it nearly always gives a clue to the probable diagnosis; in that way it serves as a basis for further investigation and helps in the emphasis on certain features of the physical examination and in the rational application of laboratory methods.

The greatest difficulty confronts us in attempting to determine whether a given group of symptoms is functional or structural in origin. The symptoms and even the laboratory observations may be the same in two cases, yet one may be organic and the other functional. Every surgical clinic affords proof of the errors arising through this mimicry, and every practicing physician has regretted experiences that prove to him the fallacy of the ordinary criteria of disease. What can help in such a doctor's dilemma? Perhaps that heaven-born gift, intuition, the subconscious psychologic insight which comes to us when we study the patient personally. It is because it tends to neglect that subtle insight that I am not favorably disposed to the hopper method of studying cases which obtains in certain clinics. Such a method precludes the utilization of the sixth sense.

The physical examination, which in practice usually follows the taking of the history, should always be thorough. No organ should be neglected. Every physician should adopt a routine method which not only will make omissions less likely, but will conserve the physician's time.

While I have always more or less followed a routine system, the practice became crystallized during service in the army. Under pressure, the board of which I was a member examined a large number of candidates for the officers' training corps. We, as de facto final arbiters in all cases, had to develop a system both thorough and speedy. I believe that this experience, which I am sure was that of thousands of other physicians similarly placed, is one of the useful by-products of an otherwise unproductive war.

With a well defined method, the guide given by the history will enable the physician to vary the method so as to concentrate on special areas or organs with a definiteness of purpose that a sloppy history makes impossible.

A physician can become a reasonably good diagnostician only by constantly practicing the technic of diagnosis. There is a close analogy between clinical medicine and music. One may know harmony and counterpoint and all that makes up the science of music, but unless by dint of hard practice one masters the technic of one's instrument there will be no music. A physician may possess all the textbook knowledge; he may be capable of passing a wonderful written or oral examination, but without the technical expertness to apply this knowledge he will be hopelessly lost at the bedside in the complexities of a medical case.

In the physical examination thoroughness is the highest desideratum. One may get valuable information in gastro-intestinal diseases from the examination of organs in no direct connection with the alimentary tract. Inspection of the skin may show jaundice, indicating disease of the biliary tract, or perhaps of the spleen. Inspection furthermore may show anemia or cachexia, calling attention to the possible existence of pernicious or other anemias and of malignant disease. In cancer of the colon, a profound anemia is often the most conspicuous sign, evident before a palpable tumor

18. Devine, H. B.: Basic Principles and Supreme Difficulties in Gastric Surgery, Surg. Gynec. Obst. **40**: 1-16 (Jan.) 1925; correction **41**: 688 (Nov.) 1925.

* Opening lecture of the seminar on gastro-enterology of the Philadelphia County Medical Society.

V 90
1928

appears. The eyes may reveal the earlier stages of jaundice and the pupils may be of the Argyll Robertson type—a valuable hint in obscure cases of persistent, painless or painful vomiting, suggesting to the alert physician the possibility of gastric crises as the cause of the syndrome and causing him to test the knee jerks and the station and to make the Wassermann test.

A blue line on the gums may reveal lead as the cause of an otherwise unfathomable colic. Addison's disease may be suggested by finding pigment spots on the oral mucosa. A sore tongue may be the first clue to the existence of pernicious anemia in its early stages. The significance of the tonsils and of the teeth does not need emphasis. Perhaps I ought to point out a curious relation between the tonsils and the appendix (the abdominal tonsil) to which I have called attention elsewhere.[1] Tonsillitis may cause appendical symptoms; sometimes the patient is scarcely aware of sore throat. Hence, in children especially, it is a good practice to look at the throat in ill defined cases supposed to be appendicitis.

A good deal can at times be learned from an examination of the neck. Most important perhaps is the discovery of a small, hard gland above the left clavicle, the so-called Virchow or Troisier gland, which indicates the existence of malignant disease either in the chest or below the diaphragm. If the patient has gastric symptoms, then in all probability the gland means cancer of the stomach. More than once have I been able to arrive at the correct diagnosis of an obscure case through this telltale gland in the neck. Of course, I do not mean to say that glands above the clavicle are always due to carcinoma of the stomach. They are frequently found in mediastinal and other malignant tumors in the chest and rarely in tuberculosis.

Toxic goiter may be the cause of severe vomiting and diarrhea. At times the goiter is so small that only after careful study is it possible to prove its etiologic relationship to the striking gastro-intestinal symptoms.

Examination of the heart is one of the most important items in the physical examination of a patient presenting gastro-intestinal symptoms. Not infrequently the very earliest signs of beginning myocardial failure are loss of appetite and a sense of oppression in the chest relieved by belching. To the patient and to the unobservant physician the symptoms, being so clearly gastric, seem to be produced in the stomach, when in reality they are due to failing circulation. Another cardiac condition in which the gastric symptoms and signs may totally mislead the unwary is mitral stenosis with hepatic enlargement confined to the left lobe. The swollen liver produces a tender epigastric tumor which in the presence of vomiting and anorexia suggests the existence of malignant disease of the stomach. One patient with this type of syndrome came very near to operation. In this instance there was nausea, vomiting, loss of appetite and a projecting tender mass in the epigastrium. The case was diagnosed as carcinoma of the stomach, and arrangements had been made for an operation. I was asked to study the patient as an operative risk. I found that he had mitral stenosis and that the epigastric mass was an enlarged left lobe of the liver. In several other instances of mitral stenosis with decompensation I have found that the left lobe of the liver bore the brunt of the congestion. The reason for this peculiar enlargement I do not know. No doubt there is an anatomic basis for it.

1. Riesman, David: Extra-Abdominal Conditions Simulating Acute Abdominal Diseases, J. A. M. A. **84**: 1973-1975 (June 27) 1925.

It is well known that angina pectoris may manifest itself by pain in the epigastrium or by pain in the gallbladder region. And coronary occlusion, a disease about which I spoke in the preceding seminar, may produce all the signs and symptoms of acute intra-abdominal catastrophe. All sorts of gastro-intestinal diagnoses are made, such as peptic ulcer, biliary colic, food poisoning and acute pancreatitis. In coronary occlusion, while the symptoms may be abdominal, careful study will reveal a terrific drop in blood pressure, collapse of the circulation, cold extremities, feeble heart sounds, perhaps a pericardial friction, leukocytosis, fever, and at times an absence of the dorsalis pedis pulse.

The lungs must likewise not be neglected in an examination in supposed gastro-intestinal disease, for the reason that pneumonia and pleurisy may mimic to perfection the symptoms of appendicitis or gallstones. I hold it as most important never to diagnose the latter conditions in a child, and rarely in an adult, without a most complete examination of the chest. Only a few days ago, I saw a boy of 5, in whom a diagnosis of appendicitis had been made, to all intents and purposes justifiably, for he had abdominal pain, tenderness, vomiting and leukocytosis, and yet the case was not one of appendicitis but of lobar pneumonia.

While pneumonia and pleurisy may through an obscure sensory reflex simulate acute abdominal disease when there is no such disease, tuberculosis, probably through toxemia, may produce pronounced gastric symptoms, especially loss of appetite and distress after eating, with complete obscuration of the tuberculosis in the lungs. Persistent dyspepsia in an adolescent demands in every instance a careful examination of the lungs and a two-hourly recording of the temperature for one or two days. In this connection it may be wise to state that carcinoma may occur in persons under the age of 30, producing, like tuberculosis, a rapid loss of weight. Carcinoma of the stomach in the young, at least in my experience, is usually attended by a good deal of pain and runs a rapid course.

Leaving the chest and coming to the abdomen, we find that in order to make an examination that will be helpful the physician needs fingers that can press deeply without hurting, fingers that are provided with roentgen-ray eyes, and, above all, a knowledge of anatomy and physiology. No region contains so many organs and none presents a comparable number of diagnostic problems. An incident of my internship in the Philadelphia General Hospital is illustrative. One day one of my colleagues asked the visiting chief—perhaps the best diagnostician on the staff—to see a patient with an obscure abdominal condition. When the chief came out of the ward, he had a puzzled look on his face and said in his characteristic drawl, "I believe I know something about the chest, but I don't know a thing about the belly."

I find it convenient to divide the abdomen into the traditional nine regions: three above, three across the middle and three below, and to have before me in my mind's eye the organs and structures normally contained in each of them.

In former papers I spoke of the right upper quadrant of the abdomen as "the Balkans" of the body; perhaps with due consideration of the prevailing international harmony the term "Central America" is more appropriate.

Pain located in the epigastrium or in the right upper quadrant suggests primarily a peptic ulcer, disease of

the gallbladder, cancer or other less easily defined disorders. As these possibilities are the first to be formulated, one proceeds to question the patient for the purpose of differentiating among them:

1. The relation of the pain to meals is a primary consideration. If the pain comes on when the stomach is empty and is relieved by food, it suggests hyperacidity and ulcer, particularly duodenal ulcer. The patient may volunteer the information that he goes to bed with a glass of milk and a cracker at his bedside or that he takes sodium bicarbonate whenever he feels the pain. This information, plus a few other anamnestic data, such as periodic recurrence of the pain with intervals of freedom, prepare one for further steps in the investigation. The roentgen-ray examination, the test for occult blood in the feces, and gastric analysis are now in order. Of the three, the roentgen-ray test is of the greatest value.

2. If the pain is often nocturnal, of sudden onset and accompanied by a sense of gaseous distention and upward pressure, it is suggestive of disease of the biliary tract. One would then inquire into the reference of the pain, the presence or absence of jaundice or chill, and, very significant, whether it is severe enough to require a hypodermic injection of morphine. If the patient is a pregnant woman or one recently confined, the diagnosis of gallstones gains greatly in probability.

The next step is to try to find tenderness over the gallbladder area. This can be done in several ways. One can press with the thumb over the gallbladder as the patient takes a deep breath, or use what I have described as ulnar percussion, striking a quick, not too violent, blow with the ulnar side of the hand over the gallbladder area as the patient holds his breath at the end of a deep inspiration, and doing the same thing on the opposite side for comparison. Or one can employ the Mann test, which consists in having the patient sit on a chair completely relaxed and leaning forward, while one stands behind him and presses the fingers under the costal margin.

The diagnosis is now sufficiently fortified for an intelligent use of the roentgen-ray laboratory, and here we get a most dependable answer as a rule if the roentgenologist employs the Graham-Cole test. It is to the great credit of American medicine and to Evarts Graham in particular that our diagnostic powers have been enlarged by such an invaluable contribution. Biliary drainage as crystallized by Dr. Lyon at times gives useful information, but it cannot replace the roentgen-ray examination after the Graham method.

If a patient in middle life presents himself with the story that he has pain after eating and loss of appetite, and if he has never had any gastric distress before, no matter how uninforming the physical examination may be, one should at once suspect malignant disease and proceed with a well defined plan for its detection. Here the test meal and roentgen-ray examination may be the sole avenues toward a correct diagnosis.

When the roentgenologic report and clinical interpretation do not tally, then one or the other or both opinions may be wrong. It then becomes necessary to review the case from a new angle and to look for additional data. Of great value, in my opinion, is the joint study by the clinician and the roentgenologist of the roentgen-ray films. I have learned a good deal about gastro-intestinal and thoracic diseases through this practice and cannot recommend it too highly. Even the roentgenologist, objective as his point of view must be, gains something by studying the films with a clinical colleague at his side.

I might at once refer to another matter germane to the present subject. It is one of which one of the greatest of American surgeons—il maestro di color che sanno—has often spoken: the value of attending operations on one's gastro-intestinal patients and learning through the autopsia in vivo; or, if through mischance, the autopsia in vivo becomes the autopsia in morte, the value of being present at the autopsy.

If the patient has attacks of pain, such as I have mentioned, coming in paroxysms, of a character that might be compatible with a diagnosis of gallstones, one must bear in mind that in rare instances the gastric crises of locomotor ataxia are the real cause of the seizures. It is on that account that I have early in this paper called attention to the importance of examining the pupils and the reflexes.

Pain in the left upper quadrant is less common than pain elsewhere and less easily fathomed, notwithstanding the fact that there are fewer organs in that part of the abdomen. We have here the spleen, the splenic flexure of the colon, the stomach, the tail of the pancreas, the diaphragm and the kidney, as well as blood vessels and nerves. As a general rule, left-sided pain should suggest disease of the stomach, cancer or diverticulum of the colon, diaphragmatic hernia, splenic infarction or some other disease of the spleen, or renal calculus. However, the pain may be referred from a distant place. I have seen pain in the left hypochondrium from such conditions as gallstone or aneurysm of the thoracic aorta.

A peculiar source of pain in either the left or the right hypochondrium which may prove a diagnostic pitfall is herpes zoster, which on the right side may be mistaken, before the eruption manifests itself, for gallstone colic.

Another condition that has to be considered as the cause of acute abdominal pain is embolism of the kidney or the spleen. If in the right kidney the symptoms may strongly suggest appendicitis, the diagnosis is usually made without difficulty by finding a source of emboli in the heart.

Pain in the center of the abdomen, as well as in the two upper quadrants, may be caused by visceroptosis. It is unnecessary to point out the differential diagnosis between this and the conditions with which it may be confused—duodenal ulcer and gallbladder disease—but it is important to bear it in mind before making a diagnosis of such a structural lesion as the last two mentioned, which are frequently surgical conditions.

Visceroptosis is often associated with neurasthenia or nervous dyspepsia. Chronic gallbladder disease may similarly produce neurasthenic symptoms. One must ever be careful, both in taking a history and in making a physical examination, not to be swayed too greatly to the one or the other side by the multitudinous complaints of the patient.

Visceroptosis is likewise often associated with colonic stasis. However, stasis may also occur in the absence of visceroptosis. It is always to be suspected in thin, flat, undernourished, long-waisted persons. When this type of habitus is discovered on examination and the history is reviewed in the light of the observation, one may not by any kind of laboratory method learn anything more about the existence of stasis than was known before. Constipation is present, but as that is a common ailment, especially among women, it has very little diagnostic significance. My old preceptor in Ohio used

V 90
1928

to say that woman is the female of the species *Homo*, constipated, and with a pain in her side.

It should be remembered that colonic stasis may exist even though the bowels move daily.

The diagnosis of colonic stasis is made largely on the roentgen-ray evidence. While the poorly defined symptom complex called autointoxication, is attributed to such stasis, there is little, if any, chemical evidence of such autointoxication. Nevertheless, I feel, purely on clinical grounds that there is such a condition, and I furthermore know that it is amenable to cure by proper treatment.

A rare source of pain is a small epigastric hernia, no larger than a grape or a marble. I have seen occasional examples of this, the patient usually having been subjected to many gastric indignities and much expense, because the little knuckle had not been found.

In the right lower quadrant the appendix is the chief offender, but a pain in the right lower quadrant need not be due to disease of the appendix. It may be due to a renal calculus. If one were to make a card index of postoperative failures, one would find quite a considerable number of patients who had been subjected to removal of the appendix because the calculus had not been discovered. Disease of the uterine adnexa is likewise a cause of pain both in the right and in the left lower quadrants, and may simulate, on the right side, appendicitis. Vaginal examination must not be neglected.

Colitis is an important disease of rather easy diagnosis, but one must be sure that there is no cancer of the colon or rectum as the cause of what is called colitis. A rectal and if necessary a proctoscopic examination should be made.

Many patients are treated for bleeding hemorrhoids when they have a carcinoma of the rectum or rectosigmoid.

Pain in the lower left quadrant may be due to colitis, to disease of the ovary or tube, to constipation of a severe type, to cancer of the sigmoid, or to diverticulum.

Examination of the lower extremities naturally cannot supply a great deal of information in the analysis of gastro-intestinal conditions. I have mentioned absent reflexes in cases of gastric crises. Absence of the dorsalis pedis pulse may in the differential diagnosis of coronary disease turn the scale of probabilities in favor of that disease.

There are two other symptoms revealed, partly by the history and partly by the physical examination, that require a good deal of diagnostic acumen for their proper reference: One is hemorrhage and the other ascites. Suppose a patient says that he has vomited blood. How shall one approach such a case? Assuming that blood is vomited and not coughed up, one has to consider the probabilities. The most frequent cause is an ulcer of the stomach or the duodenum and next cancer of the stomach. The physician would therefore point his questions primarily in these directions and guide the physical examination in the same direction. If no clue is obtained justifying the diagnosis of either of these conditions, then there are other possibilities to consider. Cirrhosis of the liver, a comparatively rare disease, may cause a profuse hemorrhage from the stomach or from the veins at the lower end of the esophagus. One has also to think of the spleen, certain disorders of which, as Banti's disease or splenic anemia, may cause gastric hemorrhage; and then, finally, of the different forms of the hemorrhagic diathesis. If the physician has these various possibilities in mind, he will naturally guide the subsequent examination more intelligently.

Hemorrhage from the bowel, the so-called melena, has a great variety of causes. I shall not go into them, except to say that a rectal examination is indispensable. It may be necessary to supplement it with the use of the proctoscope or sigmoidoscope and, of course, such other laboratory tests as are suggested by a study of the case.

To illustrate how confusing the picture sometimes is, I might cite the case of a man, about 55 years old, weighing more than 200 pounds (91 Kg.), with high blood pressure, who on a very hot day fell over in a faint while seated on the toilet. His wife heard him fall, rushed upstairs to the bathroom, and with difficulty got him to bed. A physician was called, who examined him and said that it was a heat stroke. The patient remained weak and prostrated, so that I was asked to see him. I was struck by his color. He was pale. I asked his wife whether he had vomited any blood. She said no. I then inquired into the color of the bowel movements. She said that she had been struck by their appearance, which was like that of tar. It was not difficult to conclude from this statement that the man had had an internal hemorrhage. I had a blood count made, which showed a hemoglobin of 30 per cent. The family physician and I thereupon agreed that the man should be transferred to the University Hospital, where we instituted an immediate transfusion. No blood was ever vomited by this patient. I have had a few analogous cases, and have come to the conclusion that the hemorrhage in those cases was not due to ulcer but to arterial disease with hypertension. Most frequently, however, a sudden large hemorrhage from the bowel is due to a bleeding duodenal ulcer.

Ascites is a symptom of no great diagnostic import when it is part of a general dropsy, in which case it is referable either to circulatory failure or to renal insufficiency; but when ascites is present without general dropsy, then we may have a very difficult diagnostic nut to crack. Here, too, certain general principles must guide us. In the first place, the ascites may be due to conditions outside the abdomen; to wit, adherent pericardium, polyserositis or a rare form of myocardial failure. Secondly, it may be due to disease within the abdomen. Here the age of the patient and perhaps the color may guide us. In a young person, if colored, one would suspect tuberculosis. One must also suspect tuberculosis in white persons of comparative youth. This is particularly true if the ascites is a "silent" one; that is, without pain. If the patient is a woman between 30 and 40, then my fear would always be malignant disease of the peritoneum arising either in the ovary or in the stomach. A vaginal examination may establish the diagnosis, or a very careful palpation after tapping may reveal a mass along the greater curvature of the stomach or elsewhere in the abdomen.

Cirrhosis of the liver is also a cause of ascites. As a general rule the other signs are fairly definite, such as a large liver, engorgement of the veins, and a history of alcoholism. These signs may be absent and there may be no history of alcoholism. A large spleen associated with ascites suggests that the case is one belonging to the Banti group.

Persistent vomiting is a symptom that sometimes taxes one's diagnostic skill in determining its cause. It may have a local origin, such as a pyloric obstruction, or a stricture of any kind at the lower end of the esophagus, or it may be due to intestinal obstruction.

Confronted with a case of this type, one should make it a rule, apart from the usual physical examination, to inspect and to smell the vomitus, and one should always place one's fingers into all hernial openings, and, of course, make a rectal examination. Having excluded organic diseases of the gastro-intestinal canal itself, one has to think of uremia, which may closely simulate intestinal obstruction, of acidosis, especially if the vomiting is periodic, and perhaps of brain tumor, although the symptoms of the latter are usually sufficient to attract attention to the head. The symptoms of appendicitis—pain, vomiting, leukocytosis—may be simulated by diabetic acidosis to a degree not imagined by one unfamiliar with the possibility.

I have had a few patients who came under my observation with a diagnosis of chronic gastritis, because of periodic attacks of severe vomiting. I recall distinctly one case that had been treated by a gastro-enterologist with lavage and various other measures known to the highly trained specialist. A careful analysis of the case showed that it was one of migraine; the patient's consciousness was filled more with the vomiting than it was with the pain in the head, so that he did not volunteer information about the headache until questioned. Uncontrollable vomiting may be produced by Addison's disease. The vomiting is associated with extreme hypotension. Hence, when vomiting and hypotension occur together, while one might think of exogenous poisoning, the possibility of tuberculosis of the suprarenal glands should be kept in mind.

A number of years ago I was asked to see a woman of middle age who had been vomiting for two or three days. As the urine contained some albumin, the diagnosis of uremia had been made. On the surface of things the diagnosis seemed reasonable, but when I made a vaginal examination I found a very tender mass, which proved to be a twisted ovarian cyst.

Another cause of vomiting that sometimes may not be revealed in the history is early pregnancy.

I have considered the body from the head to the feet. Let us now turn the patient over and see whether we can learn anything by examining the back that might help us in the diagnosis of gastro-intestinal diseases or in their exclusion.

There is tenderness on pressure or percussion in the loins in pyelitis which might help in excluding appendicitis and diseases of the spleen. But there is another thing to be looked for, as I can illustrate by the following case:

A woman had pain in the right lower quadrant of the abdomen with some tenderness and rigidity. Her physician, a very good man, diagnosed appendicitis and the appendix was removed and was declared to be diseased, which leads me to say that I have never seen an appendix removed at an operation that was considered normal by the operator. However, the patient did not improve. She was sent to Hot Springs, Va., for the baths and came back no better. When I saw her I found persistent rigidity on the right side of the abdomen and a deep-seated prominence which impressed me as a spasm or contraction of the psoas muscle. I then turned the patient over on her stomach and examined the vertebral column. In the region of the lumbar spine I found a small projecting knuckle which was tender on pressure. She herself had been entirely unaware of it. It could be nothing else but Pott's disease, a diagnosis which was confirmed by the late Dr. Willard, who saw her in consultation with me. While I have not had any other case exactly paralleling this one, I have heard and read of cases in which tuberculous disease of the spine produced symptoms that suggested the presence of intra-abdominal or of intrathoracic disease.

We have up to this point dealt largely with the graver conditions producing gastro-intestinal symptoms. I should be remiss if I did not say something about a large group in which the gastro-intestinal symptoms are not of grave import, although the patients come to us vociferously insistent on relief. These are the cases of so-called gaseous indigestion, acid, flatulent dyspepsia and nervous dyspepsia. In penetrating through the mystic maze presented by these dyspeptic patients one must always hold a functional diagnosis, such as indigestion, nervous dyspepsia or neurasthenia, in reserve until by the most painstaking history, physical examination and laboratory research one has excluded organic disease; and by organic disease I do not mean organic disease of the stomach and duodenum alone but also of the gallbladder and of the appendix, which may give rise to symptoms that are predominantly gastric.

Patients whom I have in mind complain of distress after eating, gaseous distention, eructations, diminished or capricious appetite, and constipation. Pain in the epigastrium, the left hypochondrium, the precordial area or between the shoulder blades is frequent; it closely simulates pain of organic origin, but is quickly relieved by the belching of gas. The patients themselves attribute the pain to gas—they want their backs rubbed, etc., or they resort to carminatives or to enemas. In all such cases it is important to use every means for differential diagnosis, not to fall into error by overlooking a diseased gallbladder, an adherent appendix, or a beginning myocardial failure.

One gets much help in the analysis of these troublesome cases by entering carefully into the patient's habits of eating. A fruitful cause of dyspepsia and indigestion is the cafeteria and lunch counter.

Neglect of the teeth, not only as to their sanitary care, but also to their use according to nature's scheme, is likewise a fruitful source of trouble. Many use their teeth like the predatory animals for biting but not for chewing. Excess in tea and coffee, excess in anything, may be harmful and therefore should be envisaged as a possible cause in the taking of a history.

One must also bear in mind that many persons unwittingly live on an unbalanced diet. It therefore behooves us to study the patient's dietary habits. In truth we need to know such dietary habits, not only to discover the etiologic factors pertaining to the patient's troubles but also because our knowledge of foods and dietotherapy is wofully incomplete. A student in a medical school learns how to use digitalis, epinephrine and pituitary extract, but he does not learn how to use milk, eggs, carbohydrates or fats, except in connection with diabetes; but that is another story.

From the large class of functional gastro-intestinal conditions it is possible to separate a group to which the Vienna school has applied the name of vagotonia, the chief characteristics of which are hyperchlorhydria with gaseous distention, bradycardia, local or general hyperhidrosis, cold clammy hands, local erythema, eosinophilia, and constipation or constipation alternating with diarrhea. This varied and variable aggregation of symptoms is attributed to overstimulation of the vagus nerve. While the ascription of the symptom complex to this cause is by no means to be taken as proved, the concept of vagotonia may help to throw some light on a dark place in clinical medicine.

V 90
1928

It is a short step from vagotonia to another subject that increasingly demands our attention; namely, psychology in medicine. Whatever our preconceived ideas may be toward modern psychoanalysis, it is wise to discard them and to approach the subject with an open mind. Much can be learned as to the causes of the various manifestations of neurasthenia, including nervous dyspepsia, by the method of approach which we owe to the psychoanalytic school. It is unnecessary at this time to go into further details on this subject. I am hoping, however, that students in medicine will not hereafter be graduated without some knowledge of the psychoanalytic method and its language.

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ERYSIPELAS

VIII. BACTERIAL ALLERGY TO STREPTOCOCCUS ERYSIPELATIS IN RECURRENT ERYSIPELAS *

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The frequency of recurrent attacks of erysipelas, combined with the difference in intensity and duration between the primary attack and the relapses supervening at short intervals, are factors which recently have suggested the existence of a state of bacterial allergy to account for the transitory duration of active immunity in erysipelas. The significance of bacterial allergy in scarlet fever has recently been seriously considered by many investigators who fail to account for the occurrence of the scarlet fever rash and symptoms on any other basis than that of bacterial allergy.

Allergic sensitization early in life to the products of *Streptococcus scarlatinae* is a view greatly strengthened by the convincing experimental data presented by Dochez and Sherman,[1] Zinsser and Grinnell,[2] Zinsser,[3] Bristol,[4] Mackie and McLachlan,[5] Smith,[6] and others who succeeded in inducing sensitization of guinea-pigs and rabbits with whole bacteria or their toxic products. Recently, Dochez and Stevens [7] were able to demonstrate that rabbits immunized with filtrates of *Streptococcus erysipelatis* showed cutaneous allergy of at least two distinct types: an early phase in which the allergic antigen could be neutralized by erysipelas antiserum and not by scarlet fever antiserum, and a late phase in which the allergic antigen failed to be neutralized by its homologous immune serum. In this article these authors corroborate an earlier expressed suspicion that the "rash in scarlet fever and the Dick reaction are apparently allergic reactions to products of *Streptococcus scarlatinae*." Dochez and Stevens logically infer a possible relationship of allergic reactions in scarlet fever and the toxic substance (Dick toxin) produced by *Streptococcus scarlatinae*. This is accomplished by calling attention to the fact that the Dick test is usually negative early in infancy. According to Cooke,[8] negative Dick reactions occur regularly in infants not possessing scarlatinal antitoxin in their blood serum. These observations are in the main analogous with those made by Zinsser and Grinnell [2] on the insensitiveness of young guinea-pigs to pneumococcus autolysate. These authors found that the serum of such animals failed completely to neutralize the antigens when injected into naturally or experimentally hyperergic animals. Zinsser [9] has recently suggested that it is "at least important to consider the possibility that sensitization to an organism (*Streptococcus scarlatinae*) which so frequently invades the human throat may take place and may thereby give rise to an allergic condition to which many of the manifestations of scarlet fever could be attributed."

The constancy with which *Streptococcus erysipelatis* is present in the erysipelatous lesion during the acute phases of the disease and the indisputable specificity of this organism in erysipelas are facts which have rendered the problem of the determination of the absence of specific antibodies in recurrent erysipelas comparatively easy of demonstration. During the course of experimental sensitization of guinea-pigs and rabbits to culture filtrates, autolysates, and living or killed hemolytic streptococci from erysipelas, I was able to corroborate the recent important work on that subject by Dochez and Stevens, previously referred to.[7] These results will be published elsewhere. The following observations in erysipelas were accidentally made during the course of active immunization against recurrent attacks of erysipelas.

I have already demonstrated [10] that during the acute attack of erysipelas the patient's blood serum and urine contain a toxic substance identical with that produced in vitro by *Streptococcus erysipelatis*. When this toxic substance is injected intradermally in hypersensitive persons, a skin reaction is elicited which is similar to the Dick test in scarlet fever. This toxic substance is completely neutralized by the erysipelas antitoxin produced in horses by repeated injections of the toxic filtrate of *Streptococcus erysipelatis*. I have also demonstrated that during the course of erysipelas the circulating toxin disappears from the blood stream from six to twelve days after the onset of the disease. Coincidentally with the disappearance of the erysipelas toxin, a rapid concentration of erysipelas antitoxin appeared in the patient's blood serum. This antotoxin, when mixed with proper amounts of erysipelas toxin, completely neutralized the toxic effect of the latter. As long as the erysipelas toxin was demonstrable in the patient's blood serum, the patient's skin remained markedly hypersensitive to the intradermal injection of the erysipelas toxin. Simultaneously with the advent of erysipelas antitoxin in the patient's blood serum during convalescence, the patient's hypersensitiveness to the intradermal injection of the erysipelas toxin completely disappeared. At this time it was likewise difficult to isolate *Streptococcus erysipelatis* from the lymph spaces of the resolved erysipelatous lesion. In other words, the toxin had been

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1. Dochez, A. R., and Sherman, L.: Some Reactions in Sensitized Guinea-Pigs to the Filtrates of Scarlatinal Streptococci, Proc. Soc. Exper. Biol. & Med. **22:** 282, 1925.

2. Zinsser, Hans; and Grinnell, F. B.: Further Studies on Bacterial Allergy; Allergic Reactions to Hemolytic Streptococci, J. Immunol. **10:** 725 (July) 1925; The Antigen Involved in Pneumococcus Allergy, J. Bact. **14:** 301 (Nov.) 1927.

3. Zinsser, Hans: Studies on the Tuberculin Reaction and on Specific Hypersensitiveness in Bacterial Infection, J. Exper. Med. **34:** 495 (Nov.) 1921.

4. Bristol, L. D.: Scarlet Fever as a Reaction of Hypersensitiveness to Streptococcus Protein, Am. J. M. Sc. **166:** 853 (Dec.) 1923.

5. Mackie, T. J., and McLachlan, D. G. S.: Experimental Sensitization to Culture-Filtrates of Streptococcus Scarlatinae, Brit. J. Exper. Path. **8:** 129 (April) 1927.

6. Smith, J.: The Exotoxins of Hemolytic Streptococci, J. Path. & Bact. **30:** 651 (Oct.) 1927.

7. Dochez, A. R., and Stevens, F. A.: Studies on the Biology of Streptococcus: VII. Allergic Reactions with Strains from Erysipelas, J. exper. Med. **46:** 487 (Sept.) 1927.

8. Cooke, J.: Skin Reactions to Scarlatinal Streptococcus Filtrates in New-Born Infants and Their Mothers, Proc. Soc. Exper. Biol. & Med. **24:** 314 (Jan.) 1927; Relation of Skin Reactions to Scarlatinal Streptococcus Filtrate in Children to Antitoxin in Blood, ibid. **24:** 315 (Jan.) 1927.

9. Zinsser, Hans: On the Significance of Bacterial Allergy in Infectious Diseases, Bull. N. Y. Acad. Med. **4:** 351 (March) 1928.

10. Birkhaug, K. E.: Erysipelas: VI. Immunization with Soluble Toxin from Streptococcus Erysipelatis Against Recurrent Attacks of Erysipelas, J. A. M. A. **88:** 885 (March 19) 1927.

removed and in the presence of specific antitoxic substances the attack was brought to an end.

These observations were further corroborated when a careful study of patients suffering from recurrent attacks of erysipelas revealed that the specific antitoxic substances produced by the patient as a result of an attack of erysipelas completely disappeared from the patient's blood serum as soon as six weeks after the last attack. At this time the patient's skin suddenly became hypersensitive to the intradermal injection of the toxic filtrate produced by *Streptococcus erysipelatis*. Although such patients did not experience any symptoms and signs of acute infection at this period, one may reasonably surmise that the cutaneous hypersensitiveness reappeared at a time when the antibodies corresponding to the toxic antigen had disappeared. This suspicion was confirmed by a series of toxin-antitoxin titrations in which the patient's blood serum failed completely to neutralize the erysipelas toxin. Thus, when the patient's serum was mixed with definite amounts of the erysipelas toxin and the mixture subsequently injected intradermally in hypersensitive persons, large skin lesions developed as a result of the non-neutralized toxic substance.

The following case histories clearly illustrate on a larger scale the relationship existing between the products of *Streptococcus erysipelatis* and the hypersensitive state obtainable in patients subjected to recurrent attacks of erysipelas.

REPORT OF CASES

CASE 1.—B. L., a woman, aged 48, had had her first attack of facial erysipelas six years before, at which time the erysipelatous lesion began at the root of the nose and rapidly extended across both cheeks, involving almost the entire face, ears and neck. The attack lasted fourteen days. No complications followed. Twelve weeks after this attack, the patient sustained a relapse of erysipelas in the same areas previously affected. The second attack lasted ten days, and its severity was similar to that of the first attack. From this time until January, 1926, the patient had suffered from three to four attacks yearly, the erysipelatous lesion always being confined to the face, ears and neck. The onset was invariably at the root of the nose, and the attack usually lasted from eight to twelve days. The patient gave a definite history of each attack having been initiated by a severe cold in the head and sore throat.

Jan. 25, 1926, the patient was seen during the acute attack of a typical facial erysipelas. The face and forehead were greatly swollen and the edge of the erysipelatous lesion had extended to the angle of the jaw below and slightly beyond the hair line above. The temperature was 103.1 F. and the pulse 110. The tonsils were moderately enlarged and deeply injected. On pressure, creamy pus was freely liberated. Before the administration of 10,000 units of erysipelas antitoxin, cultures were made of the erysipelatous lesion by injecting sterile saline solution into the margin of the lesion and immediately withdrawing as much of the fluid as possible. This fluid was then mixed with blood-agar, poured into sterile Petri dishes and, after hardening, incubated for twenty-four hours at 37 C. Swab cultures were likewise made of the tonsillar pus, poured into blood-agar and incubated for twenty-four hours. Ten cubic centimeters of blood was also withdrawn from the patient's right basilic vein to determine the circulating toxin. Following the injection of the antitoxin, a critical drop in temperature and pulse rate took place within eighteen hours, and on the fourth day the patient was apparently fully recovered.

The blood taken from the patient on January 25 was free from any micro-organisms. When 0.1 cc. of the blood serum was injected intradermally in persons previously found to be hypersensitive with the toxin of *Streptococcus erysipelatis*, a deeply injected and swollen area appeared about the site of injection, measuring about 3 cm. in diameter. A quantitative toxin determination of the patient's serum showed that 1 cc. contained more than 500 skin test doses of toxin. This toxin was completely neutralized by the erysipelas antitoxin produced in horses. January 28, about seventy hours after the injection of the erysipelas antitoxin, the patient's serum was free from any circulating erysipelas toxin. Simultaneously with the disappearance from the blood stream of the toxic substance, the patient's skin failed to react hyperergically with ten skin test doses of *Streptococcus erysipelatis* toxin.

Both the smears and the poured blood-agar plates made from the fluid aspirated from the margin of the erysipelatous lesion were free from micro-organisms. The cultures made with the pus from the tonsillar crypts contained a dominant flora of hemolytic streptococci. The nasal cultures did not show any hemolytic streptococci. Ten strains of the throat hemolytic streptococci were isolated from the blood-agar plates in pure cultures. Four of these strains agglutinated in high titer (from 1:1,280 to 1:2,560) with antiserums prepared in rabbits with *Streptococcus erysipelatis*. These four strains were found to be strong toxin-producers (1 cc. = from 15,000 to 20,000 skin test doses). The erysipelas antitoxin neutralized all these toxins completely in high dilutions.

After convalescence the patient returned to the laboratory every two weeks for experimental purposes. In the course of these visits it was noted that on April 10 the patient's skin became hyperergic with ten skin test doses of the erysipelas toxin. At this time the patient's blood serum failed completely to neutralize small doses of the erysipelas toxin. The patient requested to be actively immunized with *Streptococcus erysipelatis* toxin-vaccine. This toxin-vaccine contained 20,000 skin test doses of erysipelas toxin per cubic centimeter and about 5 billion killed erysipelas streptococci.

April 11, 0.1 cc. of the erysipelas toxin-vaccine was injected intramuscularly in the right biceps area. No immediate reaction was observed during the following two hours. The patient returned home. In the course of eight hours after the injection, she felt chilly and nauseated and vomited once. She retired feeling feverish and with general malaise. Two hours later she related that "an intense itching and swelling spread rapidly over the entire face, closing both eyes, worse than in any previous attacks of erysipelas." The patient was seen sixteen hours after the injection of the toxin-vaccine. She presented a typical case of facial erysipelas, having a definitely raised edge which spread in all directions across the face, forehead and ears and an inch beyond the hair line in front. Pitting edema was most marked on the forehead. The temperature was 101.3 and the pulse rate 98. Marked tenderness was noted in the area injected on the right arm, but no swelling was observed elsewhere on the body. An intradermal culture was taken of the erysipelatous lesion. This proved negative, like previous cultures made from the lesions. The throat was not sore. Two hours later the erysipelas-like lesion had completely disappeared and after a few hours of rest the patient was able to go about her household duties.

As the patient insisted that the course of immunization should be continued, a second dose of 0.1 cc. of toxin-vaccine was injected intramuscularly in the left arm, April 20. In the course of ten hours following the injection the patient experienced slight generalized malaise and an hour later noticed a mild repetition of the erysipelas-like swelling across the identical places on the face, forehead, ears and scalp that had been previously affected. No eruption was noted elsewhere on the body. The attack passed off gradually in the course of fifteen hours after the injection of the toxin-vaccine. April 28, a third dose of 0.2 cc. of the toxin-vaccine was injected intramuscularly in the right arm. This time the patient did not experience any malaise. About twelve hours after the injection she suddenly noticed "small blowzy bits of redness" on both cheeks and on the forehead. These areas remained discrete for about an hour and then disappeared without leaving any residual discomfort. The patient was subsequently injected every tenth day by her family physician with the following doses of the toxin-vaccine: 0.5, 0.8, 1, 2 and 3 cc. No untoward effects were noticed after these injections. The patient has been tested intradermally with ten skin test doses of the erysipelas toxin every sixth month for the last two years and at no time has she shown a positive skin test, nor has she

V 90
1928

sustained any recurrent attacks of erysipelas since active immunization was established.

CASE 2.—H. M., a man, aged 31, with a definite history of recurrent attacks of erysipelas on the right leg every ten weeks over a period of two years, was seen, Jan. 10, 1926, during an acute attack of erysipelas of the right leg. The lesion extended from the dorsum of the foot to midway on the thigh. No abrasion was observed in the skin. Pitting edema was marked throughout the erysipelatous lesion. The patient complained of sore throat and nose, which he stated had always preceded each attack of erysipelas. Both tonsils were greatly hypertrophied and ragged in appearance. The crypts were very deep, and a thick, whitish yellow pus was expressed on slight pressure. The mucous membrane of both nares was deeply injected. Intradermal cultures were made of the erysipelatous lesion, both along the margin and centrally. These cultures were subsequently found to be sterile. Both tonsillar and nasal cultures contained an abundance of hemolytic streptococci. Eight tonsillar strains and eight nasal strains of hemolytic streptococci were isolated in pure culture. Of the eight tonsillar cultures, three strains were identified as typical erysipelas streptococci both by agglutination with immune erysipelas serums and by toxin production and its subsequent neutralization with the erysipelas antitoxin. Of the eight nasal cultures, five were identified by agglutination and toxin production as being true erysipelas streptococci. The patient's blood serum was carefully titrated for erysipelas toxin and 1 cc. was found to contain about 400 skin test doses when tested on susceptible persons. After the usual preliminary bacteriologic and immunologic studies, the patient was given 15,000 units of erysipelas antitoxin intramuscularly. During the following eighteen hours the temperature gradually fell from 103.1 to 99.3 F., and in forty-eight hours the erysipelatous lesion had completely cleared up. January 13, the patient's blood serum was found to be free from circulating erysipelas toxin and at this time the patient's skin failed to react positively with ten skin test doses of the erysipelas toxin. Convalescence was uneventful.

The patient was anxious to undergo active immunization with the erysipelas toxin-vaccine in the hope of preventing relapses of the disease. January 25, 0.1 cc. of the toxin-vaccine was injected intramuscularly in the left biceps area. No immediate reaction followed within one hour of laboratory observation. About eight hours after the injection, the patient complained bitterly of nausea, perspiration due to fever and the beginning of a red swelling across the lower right leg. The patient was seen about twelve hours after the injection of the toxin-vaccine. The erysipelas-like lesion had now extended from the ankle to just below the knee. Pitting edema was most marked across the dorsum of the foot. No eruption was noted elsewhere on the body. The patient was perspiring freely, the temperature was 101.3, and the pulse rate 98. An intradermal culture of the erysipelatous lesion was found to be sterile. About twenty hours after the toxin-vaccine injection the patient was to all appearance fully recovered, except for a slight residual tenderness in the left arm about the site of injection.

February 4, 0.1 cc. of the toxin-vaccine was injected intramuscularly in the right biceps area. Again the patient developed an erysipelas-like eruption over the lower right leg along the course previously affected. The pitting edema was very slight. The second attack was attended by a mild generalized malaise, which gradually came on about eight hours after the toxin-vaccine injection. The temperature was elevated to 100.5 and the patient perspired freely. Within sixteen hours the lesion had completely disappeared. Following the third dose of 0.2 cc. of toxin-vaccine, only small patches of redness developed over the lower right leg about ten hours after the injection. These eruptions were attended by a marked pruritus. Within a few hours the scattered lesions coalesced and then rapidly faded away without leaving any residual discomfort. During the subsequent injections of from 0.3 to 3 cc., nothing unusual was observed. April 5, ten days after the last injection consisting of 3 cc. of the toxin-vaccine, the patient's blood serum agglutinated with *Streptococcus erysipelatis* in 1:640 dilution, and 1 cc. of the serum neutralized about 800 skin test doses of the erysipelas toxin. The patient has been under observation for the last two years. During this time there has not been any return of the skin hypersensitiveness to the erysipelas toxin and no recurrent attacks of the disease have developed.

CASE 3.—S. T., a woman, aged 36, with a definite history of repeated sore throat and recurrent attacks of facial erysipelas every fourth month for a period of three years, each attack being moderately severe and lasting about eight days, was seen, Jan. 26, 1926, during a moderately severe attack of facial erysipelas which involved most of the face, forehead, right ear and right parietal portion of the scalp. One of the intradermal cultures of the erysipelatous lesion showed *Staphylococcus albus*, but, since two other cultures taken at the same time remained sterile, the first culture was considered a contamination. Both tonsils were extremely swollen and injected and presented a typical picture of follicular tonsillitis. Hemolytic streptococci constituted about 90 per cent of the tonsillar flora. Eight strains of these streptococci were isolated in pure cultures and six of these were identified as *Streptococcus erysipelatis* by agglutination, absorption and toxin-antitoxin neutralization. During the height of the erysipelatous infection, January 27, 1 cc. of the patient's blood serum was found to contain more than 500 skin test doses of erysipelas toxin. The patient responded favorably with 15,000 units of erysipelas antitoxin and within thirty-six hours the erysipelas had completely cleared away.

The course of active immunization was begun, February 8, with the injection of 0.1 cc. of the erysipelas toxin-vaccine. No untoward effects were observed following the initial injection. February 17, 0.3 cc. of the toxin-vaccine was injected intramuscularly. Eight hours after the injection the patient complained of having chills, followed by fever and frontal headache. She was compelled to take to her bed. Two hours later an erysipelas-like eruption suddenly broke out over the entire face and the swelling increased rapidly, until in the course of an hour it was impossible for the patient to open the right eye. The course of the eruption was that observed during the previous attack, except that the lesion stopped abruptly at the hair line on the right parietal side. No eruption was observed elsewhere on the body. The temperature was 101.2 F., and the pulse rate 108. Except for the hypertrophy of the tonsils, no redness or swelling was observed in the fauces. The skin overlying the area on the right biceps into which the toxin-vaccine was injected was very tender, hot and flushed. The swelling gradually abated and, thirty hours after the onset of symptoms, the erysipelas-like eruption had completely disappeared and the patient felt comfortable.

Mild and localized erysipelas-like eruptions continued to appear on the face, forehead and right ear following the injections of 0.2 and 0.3 cc. During the subsequent injections of 0.5, 0.8, 1, 2 and 3 cc., nothing unusual developed except the slight local tenderness at the site of the toxin-vaccine injections. May 8, the patient's blood serum agglutinated with *Streptococcus erysipelatis* in 1:640 dilution, and 1 cc. of the serum neutralized about 800 skin test doses of erysipelas toxin. The patient has been under observation for two years and has repeatedly shown negative skin hypersensitiveness to the erysipelas toxin. She has not had any recurrent attacks of erysipelas.

COMMENT

During the last three years, sixty-eight patients with recurrent erysipelas have been actively immunized by means of gradually increasing doses of *Streptococcus erysipelatis* toxin alone, or a mixture of the toxin and the killed streptococci. Although many of these patients have experienced the usual discomforts attending a course of immunization with bacterial antigens, in only six cases have I observed erysipelas-like eruptions along the routes previously affected by the relapsing attacks of erysipelas. Three of these cases have been studied carefully both bacteriologically and immunologically. The outstanding features have been: first, the recurrence of erysipelas in the identical anatomic positions previously affected or sensitized; second, the conspicuous absence of *Streptococcus erysipelatis* from the lymph spaces within the erysipelatous lesion, where this organism is present in almost every case during the acute

stages of the disease; third, the isolation of *Streptococcus erysipelatis* from distant foci of infection, such as the tonsillar crypts or the nasal recesses and the demonstration in the blood stream of erysipelas toxin presumably absorbed from distant foci into the blood stream, and fourth, the development of antitoxic substances following the injection of the erysipelas toxin-vaccine which subsequently immunize against recurrent attacks of the disease.

These instances of induced recurrent attacks of erysipelas naturally call to mind the Arthus phenomenon,[11] or the "secondary reaction" described by Andrewes, Derick and Swift.[12] In the former phenomenon, Arthus observed that the subcutaneous tissues of the rabbit, by means of repeated injections of horse serum, can be sensitized and thus made to react so as to cause their destruction, the rest of the body meanwhile not showing any increase in sensitiveness. In the latter reaction, Andrewes, Derick and Swift observed that rabbits inoculated intradermally with certain strains of green streptococci present well marked lesions which, after reaching a maximum size in from twenty-four to forty-eight hours, begin to retrogress, only to reappear in more than 50 per cent of these animals as a secondary reaction in the same areas about eight or nine days after the original inoculation.

However, the slow development of premonitory febrile symptoms and the subsequent eruption of erysipelas-like lesions from eight to thirty hours after injection of the erysipelas toxin-vaccine is unlike the immediate nonspecific protein shock reactions described by many workers in typhoid, rheumatic fever, and other diseases following the injection of a variety of such substances.

Again, the strictly localized erysipelas-like eruptions within previously sensitized areas are decidedly unlike urticarial patches in their slow development from eight to twenty-four hours after the onset of febrile premonitory symptoms. These peculiar manifestations hold a closer relationship to the study of Dochez and Stevens [7] or to the bacterial allergy to nonmethemoglobin-forming streptococci in rheumatic fever as recently described by me [13] and confirmed by Kaiser,[14] and further elaborated by Derick and Swift,[15] and by Swift, Derick and Hitchcock.[16]

On the other hand, one must consider seriously Durham's [17] theory of relapses in erysipelas in relation to the cases presented in this paper. Durham holds that in erysipelas a particular strain of micro-organism predominates during the primary attack. Although effective antibodies may be produced to this variety of micro-organism and in that fashion bring the acute attack to an end, few or perhaps no antibodies may be produced to less abundant strains. Durham logically supposes that, for some unexplainable reason, micro-organisms of one or more of the several strains which previously remained latent in various foci during the primary attack, and to which little or no antibody response occurred during the primary attack, may now suddenly become active during convalescence from the first attack. By the sudden liberation of toxic substances during the active phase of growth of the secondary invaders, a relapse takes place. Durham holds that this process may repeat itself indefinitely with a great variety of micro-organisms and thus provide a possible explanation of multiple relapses in erysipelas.

Durham's ingenious theory of relapses in erysipelas seems precluded from consideration in the pathogenesis of the cases reported in this paper for the following reasons: the absence of *Streptococcus erysipelatis* and of any other micro-organism in the erysipelas lesions; the repeated induction of erysipelas-like eruptions by injection of the bacterial products of *Streptococcus erysipelatis;* the identity of the toxin circulating in the patient's blood serum during the height of the attack of erysipelas with the toxin produced in vitro by *Streptococcus erysipelatis;* the ease with which repeated attacks of erysipelas were induced in previously hypersensitive persons with the products of the erysipelas streptococcus, and, finally, the fact that repeated injections of the erysipelas toxin-vaccine developed sufficient antibodies to change the patient's hypersensitive state to an immune phase in which relapses of the disease also disappeared.

Although the observations reported in this paper conform perfectly well with the old conception of antigen-antibody reactions, certain phases of the ready production of recurrent attacks of erysipelas in previously sensitized anatomic positions distant from the site of injection of the bacterial products, and the absence within the erysipelas-like lesion of erysipelas streptococci, are facts which strongly suggest some form of bacterial allergy. Experimental studies by the Dicks, by Dochez and Stevens, and by Zinsser and Grinnell have clearly demonstrated that in the Dick toxin we possess a heat stable bacterial product which is both an excellent sensitizing antigen and a substance neutralizable by immune serum. These investigators have shown that animals subjected to repeated injections with the bacterial substance can be removed from the allergic state and rendered immune to the same bacterial product.

In view of the clinical data presented in the three cases of recurrent erysipelas here reported, it seems logical to me to believe that a state of bacterial allergy may possibly play an important rôle in certain cases of recurrent attacks of erysipelas.

SUMMARY

1. During the course of active immunization against recurrent attacks of erysipelas by means of gradually increasing doses of *Streptococcus erysipelatis* toxin-vaccine, erysipelas-like eruptions developed in six persons in the identical anatomic location of previous attacks of erysipelas.

2. The erysipelas-like eruption developed slowly from eight to twelve hours after the intramuscular injection of the bacterial products, and the febrile state cleared up completely within from twenty-four to thirty hours of the onset of the symptoms.

3. Persistent immunization of such persons with *Streptococcus erysipelatis* toxin-vaccine resulted in the development of immune substances which neutralized the erysipelas toxin and apparently immunized the person against recurrent attacks of erysipelas.

11. Arthus, M.: Injections répétées de sérum de cheval chez le lapin, Compt. rend. Soc. de biol. **55:** 817, 1903.
12. Andrewes, C. H.; Derick, C. L., and Swift, H. F.: The Skin Response of Rabbits to Nonhemolytic Streptococci: I. Description of a Secondary Reaction Occurring Locally After Intradermal Inoculation, J. Exper. Med. **44:** 35 (July) 1926.
13. Birkhaug, K. E.: Rheumatic Fever: Bacteriologic Studies of a Non-Methemoglobin-Forming Streptococcus with Special Reference to Its Soluble Toxin Production, J. Infect. Dis. **40:** 549 (May) 1927.
14. Kaiser, A. D.: Skin Reactions in Rheumatic Fever (Birkhaug Test), J. Infect. Dis. **42:** 25 (Jan.) 1928.
15. Derick, C. L., and Swift, H. F.: Hyperergic Tissue Response to Nonhemolytic Streptococci, Proc. Soc. Exper. Biol. & Med. **25:** 222, 1927.
16. Swift, H. F.; Derick, C. L., and Hitchcock, C. H.: General Tuberculin-Like Reactions in Rheumatic Fever Patients Following Intravenous Injection of Streptococcus Vaccines or Nucleoproteins, Proc. Soc. Exper. Biol. & Med. **25:** 312 (Jan.) 1928; Bacterial Allergy (Hyperergy) to Nonhemolytic Streptococci in Its Relation to Rheumatic Fever, J. A. M. A. **90:** 906 (March 24) 1928.
17. Durham, H. E.: A Theory of Relapses, J. Path. & Bact. **7:** 240, 1901.

V 90 1928

4. An unusual absence of *Streptococcus erysipelatis* in the erysipelatous lesions of six persons with a history of recurrent attacks of erysipelas was observed, and the organism was subsequently isolated from nasal or tonsillar foci of infection.

5. The existence of a state of bacterial allergy to *Streptococcus erysipelatis* products is suggested as a possible explanation of recurrent attacks of erysipelas strictly within previously sensitized anatomic areas.

Crittenden Boulevard.

CHRONIC GLYCOPENIA

A CLINICAL PICTURE, AN ANALYSIS OF ITS CAUSES AND SUGGESTIONS FOR ITS THERAPY *

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The knowledge of the clinical picture which is caused by the fall in the blood sugar level is of recent date. The administration of overdoses of insulin produces weakness, pallor, flushing and tremulousness, if the sugar content of the blood falls to 80 and 70 mg. per hundred cubic centimeters; when it falls to 60 or 55 mg. the patient becomes faint, anxious, excited and emotionally unstable; vertigo may be complained of; profuse sweating is common, and diplopia and incoordination may develop. With blood sugar levels between 50 and 40 mg. per hundred cubic centimeters these symptoms are accentuated, and sensory and motor aphasia, delirium, disorientation, delusions, confusion and bradycardia may occur. When the blood sugar drops to 35 mg. the patient becomes unconscious.[1]

The clinical picture presented by the chronic depression of the blood sugar standard is given little attention as yet and its causes are rarely understood. Cammidge [1] recently discussed the chronic hypoglycemia in a general treatise on this subject, without giving exact data and without referring to any literature. I too could not find any other literature as yet on the subject.

This paper deals with those cases only in which the level of the blood sugar is constantly low, not really subnormal (hypoglycemia), but around 80 to 90 mg. per hundred cubic centimeters. The name which I suggest for this last condition, which probably is more common than is supposed, is "glycopenia." I have observed three cases within less than half a year and I am convinced that, in view of the clinical symptoms, it will be easy for any physician to find many more such cases in his private practice. The abbreviated records of these three patients follow:

REPORT OF CASES

CASE 1.—Sister P., aged 36, had weighed 118 pounds (53.5 Kg.) eleven years before, but had lost weight gradually. She could not determine the time of the beginning of this loss, and could not allege any cause for her condition. Chronic constipation, occasional vomiting, general weakness and headaches were the clinical symptoms. When she first came into the hospital the weight was around 80 pounds (36.3 Kg.); the height was 5 feet (152.4 cm.). On account of her emaciation a tuberculin treatment was ordered and carried out, although no positive clinical symptoms could be elicited. Starting with 0.00005 cc. of old tuberculin, the dosage was gradually increased until she finally received 0.1 cc. after three months (December, 1927). No reactions other than a slight increase of the body temperature could be observed; occasionally headaches were complained of. She left the hospital about the middle of December and returned in the beginning of January. The body weight was then 78 pounds (35.4 Kg.). There was general weakness, inability to work or even to walk, vomiting, but regular menstruation. A thorough examination, like the first one, was without result. The attempt to get a metabolism test failed at that time. The patient, though very quiet, started to cry after a few minutes, and the test evidently resulted in too high figures. Later, the metabolism test on March 17 was minus 14 per cent. The blood sugar was 80 mg. per hundred cubic centimeters; the blood calcium, 13 mg.

CASE 2.—Miss Mac B., aged 26, always a weak girl, never seriously sick but pale and tired, had been feeling weaker for a few years, in the morning more so than in the evening, and had suffered from chronic constipation, headaches and occasionally vomiting. Menstruation was irregular, at times occurring every third week, sometimes ceasing for months. The basal metabolism was plus 7.5 per cent; the blood sugar, January 8, was 90 mg.; February 29, 82 mg.; March 17, 79 mg., and March 31, after therapy, 100 mg.

CASE 3.—Miss K., a resident nurse of the hospital, after a goiter operation three weeks before showed signs of hypoparathyroidism, such as tetany and vomiting. She improved with the administration of calcium and parathyroid gland. The clinical observations at present are enlarged thyroid gland, a slow pulse and general weakness, with sometimes vomiting. The basal metabolism is minus 7 per cent; the blood sugar, 80 mg., and the blood calcium, 12 mg.

Diet Prescribed for Underweight *

Breakfast:	Calories
Fruit	75
Cereal	80
Cream	212
2 slices buttered toast	400
1 egg	75
	842

Lunch:	Calories
Cream soup, 5 oz.	150
Potato	80
Buttered or cream vegetables	100
Bread	100
Butter	200
Salad and dressings	150
Pudding	200
Milk, one-third cream, 6 ounces	200
Meat	150
	1,330

Dinner:	Calories
Meat or substitute	200
Bread, 1 slice	100
Butter, 2 squares	200
Salad and dressing	150
Dessert-sauce	100
Cake	150
Milk, one-third cream, or cocoa	200
	1,100

* The grand total of this diet is approximately 3,000 calories, which does not include anything the patient receives between meals or the sugar added from the tray. In addition to this, she drinks 100 Gm. of saccharose every morning. Later on, instead of saccharose, dextrose was given. The patient, who is very anxious to increase her weight, eats almost all her meals completely.

It was observed, therefore, that three patients with similar symptoms had a low blood sugar. The clinical symptoms of weakness, chronic constipation, vomiting and headaches were found in all cases. The body weight and the general development of the patients were different. Patient 1 was underdeveloped, 60 inches (152.4 cm.) high, with a subnormal body weight (80 pounds, or 36.3 Kg.) and a low basal metabolism (minus 14 per cent); patient 2 was normally developed, 63 inches (160 cm.) high, weighing 110 pounds (50 Kg.), with a slight hyperthyroidism, disturbances in menstruation, but a normal basal metabolism; patient 3 was a well built and well developed girl, 64 inches (162.6 cm.) in height and 133 pounds (60.3 Kg.) in weight, with a distinct hypoparathyroidism.

A sugar tolerance test was made in the first case: 100 Gm. of dextrose was given to the patient. After

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1. Cammidge, P. J.: Practitioner **119**: 102 (Aug.) 1927.

one hour the blood sugar was 160 mg. per hundred cubic centimeters and a sugar in the urine. An increase of about 100 per cent is normal. The tolerance test was repeated and after half an hour 5 units of insulin was injected. The blood sugar half an hour after this showed a level of 130 mg.; the ability is therefore present to burn the blood sugar by means of insulin. The diet given in the accompanying tabulation was prescribed.

The patient's weight was 80 pounds (36.3 Kg.) when the diet was ordered, February 20. She gained only 1 pound (0.5 Kg.) in sixteen days, and the blood sugar rate did not change, being 80 mg., March 15. The following consideration led me to try a different treatment.

If the glycogenetic power of the liver and the muscles is poor there will be a corresponding decrease in the dextrose production with a subsequent glycopenia. The glycogen formation in the liver is believed to be controlled by the splanchnic nerves. If the effect of the splanchnic nerves on the liver is diminished, a suppression of the glycogen formation and a drop in the level of the blood sugar standard can be easily elicited. Hypo-endocrine disturbances may be the causes for this condition, just as hyperendocrine disturbances increase the blood sugar level by means of the "tonus" of the splanchnic nerves.[2] The disturbances which have to be considered in these cases are the hypofunction of the ovarian glands—the patients were all women—of the parathyroid gland (patient 3 had symptoms of a hypoparathyroidism) and of the pituitary gland, on account of the general underdevelopment of patient 1.

There are further observations which are of great importance for the question under discussion. The injection of the toxic products of intestinal microorganisms, especially of the *B. coli* group, increases the quantity of the blood sugar in normal animals. After the transection of the splanchnic nerves there is a decrease instead of an increase in the blood sugar percentage.[3] This paradoxical influence cannot be explained as yet, but it shows that there are new facts which lead to further examination and which have to be taken into consideration if one wishes to improve the condition of one's patients. I did not have any results from feeding a diet that was rich in carbohydrates, especially in dextrose. The feeding of liver was without any effect. The administration of ovarian glands, together with the administration of acidophilus tablets or acidophilus milk in order to change the intestinal flora, had a striking effect in case 2. The blood sugar level, 79 mg. per hundred cubic centimeters on March 17, went up to a normal rate of 100 mg. in fourteen days (March 31). The general condition of the patient improved during this time. The same treatment has been given to patient 1, but it is yet to be seen whether the effect will be the same. The third patient took sick with a tonsillar abscess and therefore could not be treated.

The presence of a constant low blood sugar, glycopenia, is a symptom of a hypo-endocrine condition in the cases reported. There may be other patients with a low blood sugar, which symptom, however, has a different significance.

Le Count and Singer[4] reported a case showing a very low blood sugar, 67 mg., in which the fat replacement of the glycogen in the liver was probably the cause of the hypoglycemia. The patient was a drinker. They report another case presenting similar clinical symptoms and postmortem observations in which a chemical analysis of the blood had not been done. There was a similar case in our hospital, a sudden death of a young woman after a laparotomy. The blood sugar was not determined in this case but the clinical symptoms were very characteristic. She had been treated for a gastric ulcer and the operation had been performed on account of this diagnosis. No ulcer could be found, and the conditions found post mortem were ascites and a beginning cirrhosis of the liver. The woman was a drinker. During the attempt to produce an artificial liver cirrhosis in dogs, some of them died suddenly. The cause of the death is the decrease or disappearance of the glycogen storage in the liver.

Chronic glycopenia is not a disease; it may be present without any disturbances, but it is a symptom of a lowered resistance of the body. The complaints of the patients and their unusual fatigue may easily be misconstrued and attributed to traits in their character. In other cases with a more pronounced clinical picture, errors of diagnosis, such as tuberculosis on account of the general symptoms or gastric ulcer on account of the vomiting and constipation, will easily be made. Severe diseases, especially infectious diseases, and operations may be fatal for these persons, and a blood sugar determination should be done before all liver or ulcer operations and in all cases showing the clinical symptoms of a glycopenia. A temporary increase in the blood sugar can be attained by the administration of dextrose or dextrose injection before and after the operation.

SUMMARY

The clinical picture of chronic glycopenia, i. e., a low but not a subnormal blood sugar standard, has been determined in three cases. Hypo-endocrine conditions could be found in all of them. Attempts were made to increase the blood sugar. A temporary increase could easily be attained by the administration of dextrose. We succeeded in one case by the administration of ovarian glands and acidophilus bacilli. The blood sugar level rose from 79 to 100 mg. per hundred cubic centimeters. The importance of the blood sugar determination in all cases presenting the symptoms of general weakness, chronic constipation and vomiting is to be emphasized, as is also the necessity of making this determination before operations, especially those for gastric ulcers and liver diseases.

COMMENT.—While my manuscript was being sent to the press, I found these additional results:

Case 1: Blood sugar, April 12, 105 mg. per hundred cubic centimeters; April 23, 99 mg.

Case 2: Blood sugar, May 9, 117 mg.

There was an increase of the blood sugar level to a normal rate in patient 1 and a further increase in patient 2.

2. Freund, cited by Biedl: Innere Sekretion **1**, 1913.
3. Geiger, E., and Szirtes, L.: Klin. Wchnschr. **4**: 1912 (Oct. 1) 1925.
4. Le Count, E. R., and Singer, H. A.: Fat Replacement of the Glycogen in the Liver as a Cause of Death, Arch. Path. **1**: 84 (Jan.) 1926.

Industrial Injury from Pranks.—Injuries to employees resulting from pranks or play come under the Wisconsin workmen's compensation law the supreme court has just ruled in a case from Sheboygan. The court holds that play is a species of negligence and that negligence is wholly eliminated as a defense in compensation cases. By this decision the supreme court reverses the judgment in the famous Havolic case of nearly fifteen years ago. Since the Havolic case many compensation cases have been decided on that precedent.—*Wisconsin M. J.* **27**:135 (March) 1928.

V 9
192

SPASTIC PARALYSIS OF THE JEJUNUM

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Dynamic or spastic contraction in the jejunal part of the bowel is a comparatively rare type of obstruction. That this disease is rare is indicated by the fact that Treves in a book of 565 pages on intestinal obstruction, written in 1899, makes no reference whatever to the so-called dynamic type of obstruction. Most of the reported obstructions of this nature are in the upper part of the jejunum. In 1912, Van der Hoeven [1] reported ninety-four cases from available literature in which there was a history of spastic obstruction during pregnancy. In many cases the patient died, but no cause could be found at autopsy as the obstruction had not left any sign.

Schloffer,[2] in 1899, described the intestinal obstruction seen sometimes in hysteria. There was an article on this subject in the *Deutsche medizinische Wochenschrift* in 1910. Manion [3] reported a case in 1913. Twenty cases were reported by Fromme [4] in 1914. Numerous abstracts of cases appeared in THE JOURNAL in 1912, 1914 and 1917. In 1925, Riess [5] reported a case. Hauer [6] also reported one case in that year. Jirásek [7] published an article on spastic intramural causes of spasms of the digestive tract, which was subsequently commented on editorially. Körte,[8] in 1923, published an article on spastic contractions of the intestine. Steindl [9] reported one case of intestinal spasms in 1924, and Florack [10] published an article on spastic ileus in that year.

Undoubtedly many cases have not been reported. In my opinion this ailment is not uncommon but probably it is not recognized by many operators. Peristalsis of the intestine is a tolerably complicated phenomenon which calls for definite, regular coordination of the different parts of the nervous mechanism. Physiologists assert that there are two types of peristaltic movements—the small waves and the large waves. Both are propagated from above downward. In separate parts of the intestine the large and powerful contractions proceed more slowly than the small waves, but like them from above downward. These are the true peristaltic movements and they are regulated in many ways by the central nervous system; it can be said further that the small intestine receives stimulation partly through the vagus and partly through the splanchnic nerves. But with regard to the action of these nerves, until very recently there was no unanimity of opinion. Indeed, one may say without exaggeration that every conceivable possibility has been presented by different authors. However, most writers agree that the splanchnics contain inhibiting fibers and that the vagus transmits the contracting impulses.

Bayliss and Starling, about thirty years ago, made researches on the phenomena of intestinal peristalsis. Very little work was reported in the literature for some years until Cannon of Harvard made his discovery of the antiperistaltic waves of the large intestine, especially the cecum, the so-called Cannon's waves. The latest contributions to this important subject have been the work of Alvarez and Zimmermann of the Mayo Clinic. In their reports they hold an opinion somewhat different from that of Bayliss and Starling on the law of the intestine, in that they have not been able to demonstrate that there is an enlargement of the intestine just below the passing bolus, due to impulsive dilatation of the muscularis.

The normal function of the intestine depends on the enervation supplied by the two opposing systems of nerves, the vagus acting as the accelerators, and the splanchnics as the inhibitors. In a general way these two systems, which are so wonderfully well balanced, are subject to reflex impulses from other nerve centers in the abdominal cavity. Aside from the individual variations which may take place under normal conditions, several organs may undergo far-reaching changes through the excess of tension on the part of one or the other of these sets of nerves. Every increased stimulation of the vagus results in increased activity of the muscles of the intestinal tract. Excessive stimulation, or vagotonia, induces spasms of the circular muscles of the intestinal canal. Vagotonia, or spastic ileus, may simulate an attack of cholelithiasis, hernia into the foramen of Winslow, or, through the diaphragm, volvulus and possibly intussusception.

In my cases, pain, vomiting and prostration were all of a severe character, simulating ruptured ulcer of the stomach or gallstone colic. In the case of hernia through the foramen of Winslow, I had made a tentative diagnosis of spastic ileus. From my few cases I am inclined to hold the opinion that one causative factor is trauma of the reproductive organs. My first case was undoubtedly due to an injury. On the basis of further reasoning about my cases no other deduction can be made than that there is a predominating element, or dysfunctioning of the vasomotor system, which overstimulates the terminals of the vagus or possibly enervates branches of the splanchnic nerves.

REPORT OF CASES

CASE 1.—C. H., a man, aged about 26, was admitted to my hospital in 1892 because of intense pain over the epigastrium and almost incessant vomiting or retching such as occurs when the upper intestinal tract had been emptied. The temperature was normal, the pulse a little accelerated. Dr. Rutledge, his medical attendant, informed me that while hanging a picture the patient had felt a sharp pain over the region of the stomach. This was of such severity that he was on the verge of fainting within a few moments. Dr. Rutledge immediately ordered him to the hospital and I was called in consultation. We both recognized the seriousness of the case. Appendicitis and hernia were both excluded. We telegraphed to a well known surgeon of Minneapolis, and he arrived in our city early the following morning. Preparations for the operation had been made. Considerable tympanites had developed during the night. When the abdomen was opened a coil of the upper part of the jejunum, enormously dilated, presented itself. The operator rapidly followed this large and filled intestine to a small whitish looking band about the middle of the jejunum. While it was being handled this band suddenly disappeared and the lumen became normal. The surgeon made a diagnosis of volvulus, which I now maintain was only in a degree correct. These two ailments, volvulus and spastic paralysis, are probably almost identical, differing only in minor mechanical features. The surgeon's failure to milk the contents of the dilated and partly paralyzed bowel into the lower healthy and empty tract was a grave omission. I now verily believe that this young man's life would have been saved by this mechanical manipulation. The patient died within twenty-four hours in great agony.

1. Van der Hoeven, P. C. T.: Zentralbl. f. Gynäk. **36:** 1529 (Nov. 16) 1912; abstr. J. A. M. A. **59:** 2195 (Dec. 14) 1912.
2. Schloffer: Arch. f. klin. Chir., 1899.
3. Manion, R. J.: New York M. J. **98:** 401 (Aug. 30) 1913; abstr. J. A. M. A. **61:** 995 (Sept. 20) 1913.
4. Fromme: Med. Klin. **10:** 500, 1914.
5. Riess, P.: Zentralbl. f. Chir. **52:** 2758 (Dec. 5) 1925.
6. Hauer, A.: Deutsche med. Wchnschr. **51:** 1073 (June 26) 1925.
7. Jirásek, A.: Acta chir. Scandinav. **59:** 91, 1925.
8. Körte, W.: Mitt. a. d. Grenzgeb. d. Med. u. Chir. **37:** 211, 1923; abstr. J. A. M. A. **82:** 1741 (May 24) 1924.
9. Steindl, H.: Wien. klin. Wchnschr. (supp.) **37:** 1 (Oct. 30) 1924.
10. Florack, W.: Deutsche Ztschr. f. Chir. **185:** 289 (May) 1924; abstr. J. A. M. A. **83:** 159 (July 12) 1924.

CASE 2.—Dr. Field of Forest River, medical attendant of Mrs. S., telegraphed me to come prepared to operate in a private home. The patient was a slender woman with very thin abdominal walls, and before the incision was made I could distinctly feel the large loop of intestine. This obstruction was typical and was in the upper part of the jejunum. After opening the abdomen I observed the typical grayish white band about a fourth of an inch wide closing the tract as by a purse string. Shortly after the abdomen had been opened this contraction apparently relaxed its grip and disappeared as if by magic. The patient would surely have died had I not milked the contents of the dilated and paralyzed tract down into the healthy and rather spastically contracted lower tract. It is well known that the obstruction of the upper 2 or 3 feet of the jejunum is generally fatal within twenty-four hours as a result of the rapid absorption of the toxins, enzymes and ferments of this part of the bowel. The patient made a rapid and uninterrupted recovery, only to have a relapse a few months afterward. She was then rushed to St. Luke's Hospital, where I again performed an operation; this time the patient apparently suffered from ileus. The contraction appeared to be almost in the same area as the first time. I resected a few bands which had formed between the intestines following the first operation. She again made a rapid recovery. A year or two afterward she had another attack. At that time she lived in a little town near Cooperstown, where her attending physician administered heroic doses of atropine, which seemed to relieve her distress temporarily. Returning to Forest River on a visit, she had a fourth attack and was brought down to the hospital, where I again opened the abdomen and found the same condition as before. I then made a search of the pelvis and found both ovaries cystic and bound down by a large number of dense adhesions, the result of organized fibrin following a severe pelvic inflammation years before. Every remnant of ovarian tissue and of the tubes was excised. From that time she has been free from any attacks of ileus.

CASE 3.—A large, powerfully built farmer living near Grafton, under the care of Dr. Musgrove, gave a history of having eaten fully a dozen ears of corn the previous day. The abdomen was intensely tympanic, the pulse rate was high, and there was almost incessant vomiting or efforts at vomiting. A considerable amount of dark or stercoraceous material had been expelled from the stomach, showing that there had been a nervous antiperistaltic action of the upper part of the jejunum. I made a rather large incision in the abdomen and in an incredibly short time a number of loops of intestine welled up into the opening, all filled with fluid and enormously dilated. A diagnosis of perforation of the stomach had been made, but on examination that organ was found apparently patent and empty. There was no appendicitis. I followed the large and engorged intestine far down until at last I encountered a typical white band. This band did not yield to manipulation. It relaxed its spasmodic contraction only on the application of hot compresses. I attempted to milk the contents of the upper bowel into the empty intestine, but more than half the amount could not be moved and had to be left in the upper tract. A large needle was introduced in two or three places and considerable fluid was aspirated by a large syringe. Figure of eight stitches of fine silk effectually closed these punctures. In completing the toilet I soon discovered that I could not put the distended intestine back into the abdominal cavity and unite the abdominal walls. In desperation I covered the intestine with a piece of oiled silk. I then inserted a dozen or so large heavy silkworm sutures over the oiled silk, whereby, in a measure, the intestine was confined in the abdominal cavity. I gave an unfavorable prognosis but, contrary to my expectation, the patient made, if not a rapid, a fair recovery. The bowels moved a few hours after the operation and gradually the tympanites disappeared. Dr. Musgrove failed after repeated attempts to unite the incision. The intestine was kept from extruding by the oiled silk under the sutures for two or three months. Hernia did not develop as the bowels became glued together in a firm mass. Gradually a film formed over the intestine which was so transparent that the peristaltic movements could be studied as through a piece of glass.

The patient journeyed to the Twin Cities in the hope that this large, almost circular, abdominal wound might be closed, but could not find any surgeon who would undertake the difficult task. However, the following winter he was admitted to my hospital, where he was kept under observation for a number of weeks. It would have been an ideal case for observation by Bayliss and Starling, and by Alvarez and Zimmermann. If my memory serves me right, I believe that the conclusions formed by Alvarez and Zimmermann are founded on physiologic facts as observed in this case. I did not deem it advisable to close the opening. The subsequent history in this case is that this film became thicker and denser and that the patient enjoyed comparatively good health for a number of years, only to succumb to an acute attack of abdominal obstruction.

CASE 4.—A well developed physically perfect young woman about 25 years of age, employed as librarian in the medical department of the University of Minnesota, a patient of Dr. Walter C. Williams, was operated on at the Asbury Hospital because of acute intestinal obstruction with pain and vomiting. Loops of intestine protruded immediately after the incision had been enlarged. There was a typical grayish white band, one-half inch wide, which relaxed its grip after being lifted up into the wound. The contents of the dilated bowel were carefully milked into the lower section. This milking was continued until the upper tract had collapsed and the dark color had changed to a pinkish red. Before the wound was closed the pelvis was explored and one ovary, found to be cystic and containing about 500 cc. of fluid, was severed at its pedicle. The usual toilet was made. The patient made a rapid and complete recovery.

CASE 5.—In a youth, aged about 20, living with his mother on a farm near Niagara, and brought to St. Michael's Hospital by Dr. Van Vliet, his attending physician, I made a tentative diagnosis of spastic ileus. This diagnosis was confirmed, for when the abdomen was opened the typical white band and large dilated bowel presented themselves. The band relaxed its grip on the application of hot compresses. The contents of the upper bowel were milked into the healthy and empty segment. The wound was closed with a drainage wick and did not cause any further trouble. However, on the fourth day I was hastily called to the hospital and found the patient suffering intensely from dyspnea due to massive collapse of the right lung. No vesicular murmur could be heard over the area of the lung. This was somewhat relieved by small doses of morphine. The patient obtained some relief on being placed in an almost sitting position in bed. The following day the symptoms of dyspnea were not as intense as on the evening before. He had rested a little during the night. The patient gradually improved until on the sixth or seventh day the normal respiratory murmur was again heard over the entire area of the chest. He made a rapid and complete recovery.

CASE 6.—A powerfully built, stocky German butcher, referred to me by Dr. Lohrbauer of Lakota, on a very hot day drank, according to his own report, a pint of icewater every half hour during the middle of the day. In the afternoon, while lifting a heavy quarter of beef, he was taken suddenly ill with intense pain in the region of the umbilicus. He was rushed to St. Michael's Hospital and was operated on late in the afternoon. An abdominal opening about 6 inches on the right side of the umbilicus was made. A long loop at about the middle of the jejunum, greatly dilated and completely filled with fluid, welled up through the opening. No evidence of volvulus or twist was observed. The obstruction was caused by a firm spastic contraction nearly an inch long which effectually closed the lumen of the intestine. This contraction suddenly relaxed when I proceeded to milk the contents of the bowel downward into the healthy segment. This was continued until the paralyzed bowel was absolutely empty, when it resumed a rather pinkish red color, but did not show any evidence of injury or thrombosis of any of its vessels as a result of the manipulation. The patient had a stormy convalescence, partly because of vomiting large quantities of water. The cause of this vomiting was quite a mystery until he was detected by his nurse just as he had almost emptied a hot water bottle while she was momentarily absent from the room.

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192

COMMENT

Spastic obstruction of the intestinal tract is akin to volvulus and intussusception, the causative factor being a derangement of the delicate balance of the motor and the inhibitive impulses from the vagus and the splanchnic systems. When there is a large accumulation of fluid in the upper tract it should be milked into the lower and healthy segment, and if this is inadvisable because of either loss of time or extended inflammation, the bowel should be emptied by a longitudinal incision and the incision sutured. Ileostomy with drainage is a hazardous method. If, in case 3, the intestine had been drained of all its accumulated fluid, the patient might have made a complete recovery. If fluid has accumulated above the constriction, as a result of spastic obstruction, volvulus, intussusception or hernia, to such an extent that the bowel is ballooned and filled, the rational surgical procedure is to empty it either by milking it downward to the empty part of the intestine or by draining the last drop of its contents, for the organ is paralyzed and has lost its muscular tonicity, and only rest and resumed blood circulation will avoid a catastrophe.

First National Bank Building.

AMEBIASIS OF THE LIVER*

E. C. CORT, M.D.
CHIENGMAI, SIAM

Since the discovery of an ameba as the causative agent of dysentery in man by Losch in 1873, and the discovery by Koch in 1883 of an ameba in the pus from a patient dying of tropical abscess of the liver, which discovery was confirmed by Kartulis in Egypt in 1887 and by Osler in America in 1890, the importance of *Endameba histolytica* as an agent in human morbidity and mortality has been increasingly recognized.

More recently the finding of large numbers of cases of amebiasis from practically all over the world has reemphasized amebiasis as a public health problem of the first importance. To quote from Ludlow's article,[1] Dobell's figures for England give 10 per cent infection; Kofoid and Swezy, 26.5 per cent in the United States; Kessel and Svenson, 29.5 per cent in the Peking area, China, and Choy, 19.6 per cent for Seoul, Korea. Our own figures in the McCormick Hospital clinic give 22.9 per cent.

Since it seems unquestioned that *Endameba histolytica* is a true parasite and not, at times, a merely commensal one, the significance of these large percentages of infection begin to assume serious proportions, especially in view of the pathology of the lesions produced in the host. The finding at autopsy of amebas in the blood vessels and in small abscesses in the bowel wall with no traceable opening into the lumen of the intestine explains not only the frequency of hepatic involvement but also the unsatisfactory treatment of the infection and the long list of remedial substances that have been tried in intestinal amebiasis. These observations would also seem to make it obvious that local treatments cannot be more than palliative and that the only logical method of attack on the infection is by means of the blood stream.

ETIOLOGY

Race is given a leading place in the etiology of liver abscess. Statistics for India [2] give the ratio of the incidence of liver abscess in European soldiers to native soldiers as 95.2 to 4.8. At the same time, it is stated that natives are more liable to dysentery than Europeans. This last statement, however, seems to be open to question since the sanitary and dietary habits of the two groups are so different as to make comparisons of this sort of doubtful value.

Alcoholic excesses, chills and exhaustion are also mentioned. Since all these factors are those which would reduce the resistance of the individual, my own feeling is that the whole question may hinge on an acquired resistance to the organism.

The question of resistance to protozoan infection is a complicated one indeed, but that such resistance does exist in such infections as malaria seems generally conceded. While reasoning from analogy may be a dangerous proceeding, I should like to discuss this problem briefly in regard to malaria.

While a complete resistance to malarial infection probably does not exist, a relative resistance of a fairly high grade undoubtedly exists. The district of Siam in which Chiengmai is situated is highly malarious. Most of the severe cases of malaria are seen among recently arrived Chinese, Siamese from districts with little malaria, Europeans, and in young children, the latter fact pointing to an acquired immunity and not a racial one. As is well known, anything that disturbs the balance of the defensive mechanism of the body, such as a surgical operation, injury, exposure, alcoholic excesses or concurrent infections, may convert a latent malarial infection into a virulently active one. At the McCormick Hospital we have had the same experience with several cases of amebiasis in which the patient after a surgical operation has suddenly developed an attack of amebic dysentery. In most of these cases the incubation period of from twenty-four to forty-eight hours after admission has been too short to admit the possibility of an infection acquired in the hospital. With this striking similarity to disturbances in resistance to malaria in mind, it is my conviction that the suggested etiologic factors of amebic involvement of the liver must be reexamined along the lines of acquired and disturbed resistance.

STATISTICS

In our work we have until recently been so badly handicapped by lack of equipment and personnel and by overwork that records have been nil or too meager for statistical purposes, but out of an undoubtedly much larger number we have been able to collect the records of 530 cases of amebiasis treated either in the hospital or in the outpatient clinic, the majority being hospital cases.

Our statistics for these cases are as follows: Total number of cases reported, 530; cases with hepatic involvement, ninety-seven; cases treated by aspiration, fourteen; spontaneous rupture through lung, two; rupture into left pleural cavity treated by aspiration, one. This gives a figure of 18.3 per cent of hepatic involvement. Of the ninety-seven cases diagnosed as amebiasis of the liver there was no definite history of previous attacks of dysentery in eighteen, or 18.5 per cent. In practically all cases there was pain in the hepatic region, and fever of an intermittent type with a more or less

* From the McCormick Hospital, Chiengmai, Siam.

1. Ludlow, A. I.: China M. J. **40**: 1165-1189 (Dec.) 1926.

2. Manson: Tropical Diseases, ed. 8, New York, William Wood & Co., p. 399.

enlarged and tender liver. In all cases the injection of emetine brought about amelioration of symptoms and reduction in the size of the liver within two to four days. In some cases this reduction was almost incredible.

In case 1 (fig. 1) the absolute liver dulness extended from the fifth interspace to a point 2 inches below the umbilicus. At the end of eight days, after 7 grains

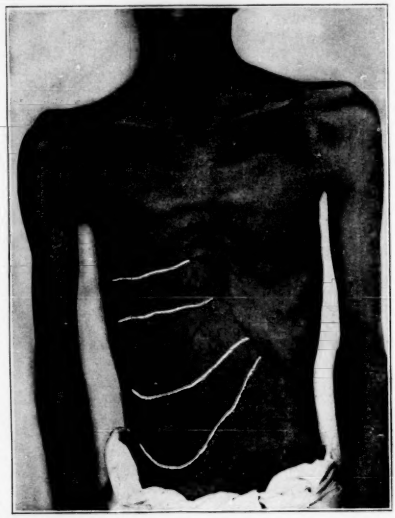

Fig. 1.—Treatment with emetine alone. The extreme upper and lower lines represent the outlines of the liver before treatment; the inner lines show the liver outline eight days later.

(0.5 Gm.) of emetine, the absolute liver dulness extended from the top of the seventh interspace to the costal margin.

As Dr. Manson-Bahr [3] points out, in a recent review of the literature on amebic disease of the liver, emetine exerts a much more striking and specific action in these cases than in intestinal amebiasis. So specific do we consider this action that we have used emetine as a therapeutic test in doubtful cases of inflammation of the liver in which the history and microscopic observations were negative. If after three days of treatment there is not a definite reduction in the size of the liver and a great amelioration of symptoms, we believe that amebiasis can be ruled out.

OPERATION

The first case of amebic abscess of the liver which I saw was a spontaneous rupture of the abscess through a bronchus and the patient was expectorating large quantities of chocolate colored pus. This patient did so well on treatment with emetine that when I encountered my first case in which operation was required in 1912, aspiration seemed the logical method of attack. The patient had a large fluctuating mass buiging into the epigastrium and extending well below the umbilicus. After three days of emetine treatment, the lower margin of the liver receded 3 inches, the patient was free from fever and the general condition was immensely improved. Under local anesthesia a small incision about three-fourths inch (2 cm.) long was made just below the costal margin, extending to the peritoneum. When an aspirating needle revealed the presence of the characteristic brown pus, a trocar was inserted along the path of the exploratory needle, and 2,200 cc. of pus was evacuated. The incision was closed and covered with a large sterile dressing. The trocar was inserted on two succeeding days, 250 cc. being obtained the second and about 50 cc. the third day. The patient made an uneventful recovery and when last seen twelve years afterward seemed entirely well.

It seemed to me then, and my limited experience since has confirmed this, that aspiration was the method of choice in dealing with amebic abscess and that the open operation should be reserved for those cases in which there was a complicated secondary infection. It seems reasonable to believe that the question of the secondary infection can be decided by the effect of emetine. If the patient becomes afebrile under emetine, as has occurred in my small series of fourteen cases, this would seem to rule out a secondary infection and thus rule out any reason for an open operation.

Of the seventeen cases in which pus was evacuated, either by aspiration or spontaneously, there was recovery in all, and only one (case 2) showed a tendency to relapse. In only two was more than one aspiration done, the case just mentioned and the case in which the abscess had ruptured into the left pleural cavity. In this case aspiration was done three times.

Ludlow [1] states that the point of election in a large majority of his cases has been the ninth interspace. In all but two of our fourteen cases the principal enlargement has been downward with bulging into the epigastrium, and the point of attack has been just below the costal margin. In two cases the aspiration has been made in the tenth interspace. In all cases local anesthesia has been used, with a preliminary small incision down to the peritoneum. In only one case was the pus too thick to run through a small trocar (fig. 3). In this case the small trocar was withdrawn and a large trocar about the size of a 26 F. sound was inserted along the track, and 800 cc. of extremely thick pus evacuated very slowly. Case 2 was the only one in which there was serious shock. In this case there was a history

Fig. 2.—Treatment by aspiration. The two lower lines represent the liver margin before and after 3 grains (0.2 Gm.) of emetine. The scar of aspiration can be seen. The patient is living and well three years after treatment.

3. Manson-Bahr, P. H.: Trop. Dis. Bull. **22**: 259-267.

of very severe pain, fever and progressive wasting for two months, and the patient, who had a complicating mitral stenosis, came into the hospital in a very serious condition. There was no enlargement of the liver downward, but the absolute liver dulness extended upward to the fifth interspace. About 400 cc. of pus was evacuated through a small trocar in the tenth interspace. Before the end of the operation, fresh blood began to flow freely from the trocar.

The operation was stopped immediately. The patient suffered from severe shock, and the prognosis was most unfavorable for many days. The patient showed a tendency to relapse and even after her discharge had one slight attack of the hepatic pain. She received 1 grain (0.065 Gm.) of emetine daily for eight days, then after the lapse of a week four more daily injections of 1 grain (0.065 Gm.), and subsequently three series of 3 grains (0.2 Gm.) each at intervals of a month, making a total of 21 grains (1.3 Gm.) in all. The patient has been free from all symptoms for twelve months and has gained 20 pounds (9 Kg.).

In the entire ninety-seven cases diagnosed as amebiasis of the liver there was only one death. In this case the diagnosis was obscured by a complicating cardiac and renal condition with ascites and the diagnosis was made too late to benefit the patient, no emetine having been given. One other patient, whose liver reached to the umbilicus, insisted on returning home after only five injections of 1 grain (0.065 Gm.) each. This patient had a relapse six months later—during my furlough—and as near as could be ascertained died of intraperitoneal rupture of the abscess.

I might add that during the period covered by this report I have seen nine patients in their own homes, all with unmistakable symptoms of liver abscess, three of whom had large fluctuating masses half filling the abdomen; all refused both treatment and operation and all died in a comparatively short time.

COMMENT

Emetine given hypodermically produces a most striking reduction in all enlarged livers of amebic origin whether pus is present or not. In some cases such as case 1 (fig. 1) the liver returns to normal within a few days. In others the reduction, while rapid at first, stops after three or four days, and these are the cases in which aspiration is required.

This rapid reduction in the size of the liver is accompanied by an equally rapid improvement in the condition of the patient. Several of our patients reached the hospital in a very serious condition with extreme emaciation, weakness, fever, severe pain, and dilated hearts with edema of the extremities. Within two or three days after beginning emetine treatment the pain and fever had disappeared, the appetite had returned, the pulse was improved and the patient seemed a different person.

Prophylaxis, aside from the obvious public health measures to prevent the original infection, must include on the part of the clinician that he keep constantly in mind the possibility of amebic hepatitis in obscure cases of hepatic discomfort or tenderness even in the absence of a positive history and positive microscopic examination, unless these have been frequent and thorough, and the use of a therapeutic test by emetine in suggestive cases.

Prophylaxis must also include adequate treatment of all discoverable amebic infestation of the bowel, even though without symptoms at the time. Since we have had relapses after emetine alone, and after acetarsone or chiniofon alone, we have finally adopted the plan of using all three. When the patient will consent, our plan of emetine treatment is as follows:

One grain (0.065 Gm.) of emetine is given intermuscularly daily for seven days, then after an interval of one week another five injections to a total of twelve, then at least two series of two or three injections at intervals of one month. When the patient has very frequent stools or, as in many of our severe cases, has lost sphincter control, we also begin with chiniofon enemas, one a day with bismuth, or opium, as indicated. When the stools are less frequent we begin with acetarsone by mouth as well as emetine, giving one 4 grain (0.26 Gm.) tablet twice a day and continuing this treatment for not more than six or seven days.

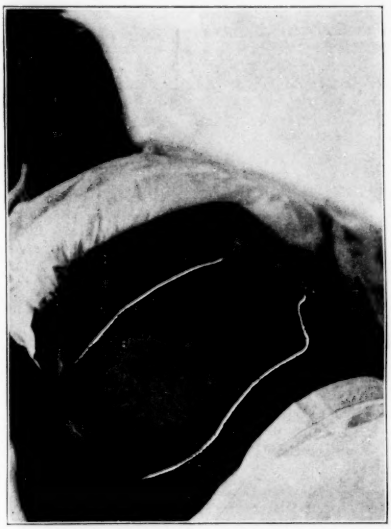

Fig. 3.—Treatment by emetine before admission. The lower line shows the liver border on admission. About 800 cc. of very thick pus was evacuated with a large trocar, and the patient was well fifteen months later.

We then continue with chiniofon pills. On account of the laxative effect at first, we begin with two 4 grain (0.26 Gm.) pills three times a day and gradually increase to four pills three times a day. At the end of one month we recommend a second course of acetarsone followed by a second course of chiniofon.

The possibility of the toxic effects of acetarsone after nine or ten days of administration must be borne in mind, so we have limited ourselves to a course of seven days only and have treated more than 200 cases without any toxic effects whatever.

CONCLUSIONS

1. Emetine, while not a specific for amebic infections of the intestine, certainly approaches the nature of a specific for amebiasis of the liver.

2. Adequate emetine treatment apparently cures all cases of amebic hepatitis, and even when large abscesses

are present greatly reduces the mass of the liver and converts a poor surgical risk into a good one.

3. Aspiration with preliminary and subsequent emetine treatment affords the safest methods of dealing with large abscesses and has the additional advantage of short convalescence.

McCormick Hospital.

PULMONARY ABSCESS AND PULMONARY GANGRENE*

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Pulmonary abscess and pulmonary gangrene are separate entities. In spite of distinguishing characteristics they are, however, almost universally considered and treated as one disease.

Pulmonary abscess is caused by pyogenic organisms, usually by staphylococci, reaching the lung by aspiration from the oral cavity or through the blood stream from a distant focus of suppuration. Pulmonary abscess occurs more frequently in children than in adults, and in cases uncomplicated by septicemia the prognosis is fair.

Pulmonary gangrene, comparatively, is a much more severe disease caused by a group of organisms, notably spirochetes, fusiform bacilli and vibrios aspirated from the oral cavity. It occurs much more frequently in adults than in children, and at the Mount Sinai Hospital of Cleveland in the past four years there have been more cases of pulmonary gangrene than of pulmonary abscess.

The fact that pulmonary gangrene does not respond well to the treatment for abscess but is frequently cured by arsphenamine therapy [1] makes the differentiation between these two diseases imperative. This differential diagnosis may be made by an examination of the sputum. In cases of abscess it is mucopurulent or purulent, has no appreciable odor and, when washed, shows the pyogenic organisms in cultures and smears stained by the Gram method. The sputum of gangrene, on the other hand, is foul smelling and grayish-brown or grayish-green, and when carefully washed shows the characteristic spirochetes, fusiform bacilli and vibrios in smears stained by strong carbolfuchsin solution or by the Fontana method.

DIAGNOSIS

In the majority of clinical reports, the diagnosis of pulmonary abscess appears to be based on the roentgen-ray and clinical evidences of cavity or cavities and not on a study of the bacteria present in the sputum. In a number of reports [2] anaerobic organisms, including spirochetes and fusiform bacilli, have been reported in cases of "pulmonary abscess." Since the fully developed characteristic lesion produced by these organisms is gangrene and not abscess, the value of these communications is lessened by the failure of the authors to make the differential diagnosis. Although Rona [3] in Hungary first reported pulmonary spirochetosis with gangrene twenty-three years ago, less than 150 cases of this disease have been recognized in the United States.[4] In contrast to this, many thousand cases of pulmonary abscess have been reported.

CHARACTERISTICS OF PULMONARY ABSCESS AND PULMONARY GANGRENE

The majority of the cases of pulmonary abscess observed at the Mount Sinai Hospital were apparently of the aspiratory type. The lesions were frequently multiple with, however, one or a few principal areas of suppuration. The lower lobes were more frequently involved than the others. In the cases of embolic type, the abscesses were invariably multiple, involving a number of lobes, and comparatively small. They were associated with abscesses elsewhere in the body, usually in the myocardium, kidneys and brain, and in all but two of the cases there was an associated staphylococcus septicemia. The majority of the cases of pulmonary abscess occurred in infants and children.

Almost all the cases of pulmonary gangrene, on the other hand, occurred in adults. In all cases the lesions apparently followed aspiration of infective material from the mouth. In the majority, the lesions were multiple and, as in the cases of aspiratory abscess, the lower lobes were more frequently involved.

A number of the cases of aspiratory abscess and of gangrene followed operation under general anesthesia. Most of the cases, however, did not have any relation to operation or to general anesthesia.

Anatomically, the lesion of postoperative aspiratory abscess does not show any detectable difference from that of the nonoperative aspiratory abscess. Likewise, there is no difference detectable in the pulmonary gangrene occurring after operation and that occurring without relation to operation. Because there is no appreciable difference in the character of pulmonary abscess in the two groups and none in the character of pulmonary gangrene in the two groups, it is possible that the pathogenesis of these conditions in cases following operation and the pathogenesis in those not related to operation depend on the same factors. Concerning these factors, there is a voluminous literature, reviewed by Whipple [5] and by Schlueter and Weidlein.[6]

ORIGIN AND EVOLUTION OF PULMONARY LESIONS

The majority of observers and investigators believe that the organisms producing pulmonary lesions are aspirated from the oral cavity. A number, however, believe that in most pulmonary conditions, especially in the postoperative group, the organisms reach the lung through the blood stream. The clinical and experimental evidence for embolism is well presented in the excellent communications of Cutler, Schlueter, Weidlein and Holman [7] and of Fetterolf and Fox.[8] This evidence as presented in a recent communication by Schlueter and Weidlein is as follows:

Our belief that postoperative lung abscess results from embolism, a mechanism produced by the dislodgment of an

* From the Mount Sinai Hospital.

1. Kline, B. S., and Berger, S. S.: Spirochetal Pulmonary Gangrene Treated with Arsphenamine, J. A. M. A. **85**: 1452 (Nov. 7) 1925.
2. Graham, E. A.: Surgical Treatment of Pulmonary Suppuration in Children, J. A. M. A. **87**: 806 (Sept. 11) 1926; Ann. Surg. **86**: 174 (Aug.) 1927. Rawson, Vance: Spirochetal Abscesses of the Lung, J. A. M. A. **82**: 545 (Feb. 16) 1924. Smith, D. T.: Experimental Aspiratory Abscess, Arch. Surg. **14**: 231 (Jan.) 1927. Crowe, S. J., and Scarff, J. E.: Internat. Surg. Dig. **3**: 323 (June) 1927. Allen, D. S.: Etiology of Abscess of the Lung, Arch. Surg. **16**: 179 (Jan.) 1928.
3. Rona, S.: Arch. f. Dermat. u. Syph. **74**: 171, 1905.
4. Smith, D. T.: Am. Rev. Tuberc. **15**: 352 (March) 1927.
5. Whipple, A. O.: New York State J. Med. **26**: 967 (Dec.) 1926.
6. Schlueter, S. A., and Weidlein, I. F.: Postoperative Lung Abscess, Arch. Surg. **14**: 457 (Feb.) 1927.
7. Cutler, E. C., and Schlueter, S. A.: Ann. Surg. **84**: 256 (Aug.) 1926. Schlueter, S. A.; Weidlein, I. F., and Cutler, E. C.: New York State J. Med. **26**: 767 (Sept. 15) 1926. Holman, Emile; Weidlein, I. F., and Schlueter, S. A.: Proc. Soc. Exper. Biol. & Med. **23**: 266, 1926.
8. Fetterolf, G., and Fox, H.: Am. J. M. Sc. **166**: 802 (Dec.) 1923.

infected thrombus from the vessels of the operative area, is based on the following facts:

1. The definitely proved existence of the condition of fatal postoperative pulmonary embolism. This supposes the possible scattering from any wound of single or multiple emboli into the venous circulation.

2. The frequent development of lung abscess after operations performed in infected or potentially infected fields. In this class we refer particularly to nose and throat operations, especially tonsillectomy, and to operations performed on the gastro-intestinal tract.

3. The high percentage of occurrence after operations performed in mobile operative areas. Thrombi are easily dislodged from such regions as the pharynx and the epigastrium. In operations on the brain in which the skull acts as a splint the percentage of postoperative pulmonary complications is almost nil.

4. The not uncommon appearance after operations in which local anesthesia is employed.

5. The failure to prevent postoperative pulmonary complications with the constantly improved methods of giving inhalation anesthesia.

6. The greater frequency of lower lobe involvement. This is explained by the greater volume of blood and the more direct course of the pulmonary artery to these lobes.

7. The often symptom-free period following the operation before the onset of the complication. If the aspiration mechanism were the causative factor, the appearance of the symptoms would be early.

8. The sudden pain in the chest that frequently constitutes the initial symptom and the often severe and stormy associated clinical course that follows before rupture and evacuation occur.

9. The acknowledgment by bronchoscopists that typical lung abscess is rare with the lodgment of foreign bodies even deep in the air passages.

10. The unsuccessful attempts at experimental production in animals by the introduction of infected materials by way of the air passages, either by transtracheal implantation or by aspiration.

11. The comparative ease with which lung abscess can be produced by the intravenous injection of infected materials.

Although pulmonary abscess was produced in dogs by the intravenous injection of a large embolus containing staphylococci, streptococci, pneumococci and colon bacilli, the process eventuated in healing and not in a progressively enlarging lesion. That such a progressive lesion was not produced is probably due more to the organisms employed than to the route. The experimental abscesses reported by these investigators are similar to the embolic pulmonary abscesses observed clinically in cases of septicemia and pyemia. In cases of this type in man observed at autopsy, the abscesses were invariably multiple, involving several lobes and varying in diameter from several millimeters to about 1.5 cm. In one case they were confluent in places. The gross lesions were grayish or reddish-gray without appreciable odor. Many were just below the pleura, and this structure was frequently involved. Microscopic examination of sections stained by the Gram method showed clusters of staphylococci first within the lumen of a blood vessel and then within the walls, the lumen at this time usually containing a thrombus. Apparently following the inflammatory process in the walls of the vessel there was a spread of the staphylococci and of the suppurative process into the regional lung tissue.

Although of interest in connection with the evolution of embolic abscess as already described, the experiments of Cutler and his associates in our opinion do not throw any light on the pathogenesis of the so-called typical lung abscess of man. The following facts are more convincing evidence that in these cases the organisms reach the lung by aspiration:

1. The frequent occurrence of aspiration of foreign material is borne out by the finding at autopsy of deposits of coal pigment in the lungs of all adults.

2. Pneumonia undoubtedly following the aspiration of food particles and bacteria during the unconsciousness of coma or of anesthesia is an occasional autopsy observation. On microscopic examination, sections from these cases show the foreign material and bacteria in the bronchial branches and in the alveoli, surrounded by inflammatory exudate.

3. It was reported by Myerson[9] that bronchoscopic observation immediately following tonsillectomy under general anesthesia showed the presence of blood and mucus in the bronchial tree in 155 of 200 cases. Myerson concluded that as aspiration is common and abscess infrequent, the failure of evacuation of infected material is the most important factor in the causation of pulmonary abscess. Among the reasons given for this failure are the loss of action of the cilia, the lessened elasticity and compressibility of the lung, and a local immobility. Furthermore, it has been shown experimentally[10] that rabbits receiving considerable numbers of pneumococci in the trachea just beyond the larynx get rid of them without suffering

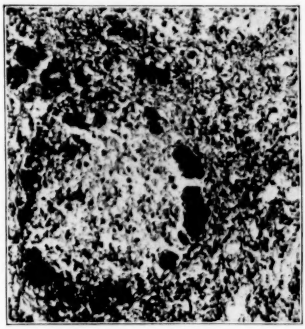

Fig. 1.—Staphylococci in blood vessel and regional parenchyma in early embolic abscess of lung; magnification about 150.

appreciable involvement of the lungs, whereas in those animals in which the same number of similar organisms has been introduced into the air sacs an inflammatory process invariably develops.

4. The production of pneumonia by intrabronchial inoculation of pneumococci in dogs by Lamar and Meltzer[11] and in rabbits by Winternitz and Hirschfelder,[12] and by intratracheal inoculations in monkeys by Cecil and Blake,[13] proved that aspiration can explain the manner in which organisms reach the lung in man.

5. There is evidence for the belief that the various inflammatory lesions of the lung may be brought about by the aspiration of the causative bacteria from the mouth during the deep sleep following fatigue. In much the same way, ether anesthesia increases the opportunity for aspiration into the lung and at the same time renders the body incapable of expelling the foreign material.

6. The occurrence of severe pulmonary inflammations containing innumerable bacteria following clean operations in clean fields on patients under general anesthesia indicates that in

9. Myerson, M. C.: Lung Abscess Following Tonsillectomy, Arch. Otolaryng. **1**: 137 (Feb.) 1925.
10. Kline, B. S., and Winternitz, M. C.: J. Exper. Med. **21**: 304 (April) 1915.
11. Lamar, R. V., and Meltzer, S. J.: J. Exper. Med. **15**: 133, 1912.
12. Winternitz, M. C., and Hirschfelder, A. D.: J. Exper. Med. **17**: 657, 1913.
13. Cecil, R. L., and Blake, F. G.: J. Exper. Med. **31**: 403 (April) 1920.

these cases the bacteria are undoubtedly aspirated from the oral cavity. Likewise, in clean cases done under local anesthesia, the bacteria most certainly reach the lung by aspiration and not by embolism.

7. An anatomic study, including examination of Gram and Warthin-Starry stained sections of early lesions of pulmonary abscess and of pulmonary gangrene, reveals that the process in these cases is one of inflammation starting in and about

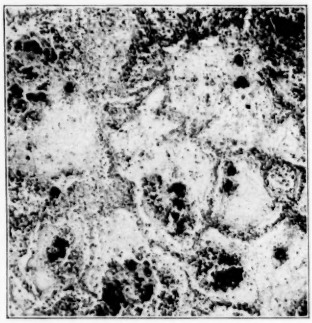

Fig. 2.—Early aspiratory abscess of lung with staphylococci in alveoli; magnification about 75.

the smaller bronchial branches. This is quickly followed, however, by changes characteristic of abscess when staphylococci or other pyogenic organisms predominate in the lesion, and more slowly by changes characteristic of gangrene when spirochetes, fusiform bacilli and vibrios of the oral type predominate. In these early lesions the blood vessels do not show any involvement.

8. The experimental production [14] in a rabbit of pulmonary gangrene by the intrabronchial injection of material from a carious tooth containing innumerable spirochetes and fusiform bacilli is proof that aspiration of these organisms may produce pulmonary gangrene. This experiment is confirmed by those of Smith,[15] who reported the production of experimental aspiratory abscess in mice, guinea-pigs and rabbits by the intratracheal inoculation of material from about the teeth of patients with moderately severe pyorrhea, containing spirochetes, fusiform bacilli and vibrios. More recently, Crowe and Scarff,[16] and Allen [2] reported the production of lung abscess in dogs by intrabronchial inoculation of material containing oral spirochetes.

Schlueter and Weidlein [6] state that "in a census of recent writers forty declare themselves in favor of aspiration while only ten favor embolism as the direct cause of lung abscess." From the available evidence, the view of the majority is apparently the correct one. If it is true that the organisms producing pulmonary abscess and pulmonary gangrene are aspirated from the oral cavity, the reduction of trauma by the surgeon in the operative cases as advocated by Cutler will do less to prevent these conditions than proper oral hygienic and therapeutic measures. Such a program of preoperative oral care is now being followed at the Mount Sinai Hospital of Cleveland.

CHARACTER OF VARIOUS LESIONS

More important than the pathogenesis of the "typical lung abscess" of man is the actual character of the lesion present and the organisms producing it. As indicated, cases of this type show either pulmonary gangrene or abscess of aspiratory type. The aspiratory abscesses observed, although usually limited to one lobe (a lower lobe most frequently), were multiple here, in places confluent and associated with a regional pneumonia. The abscesses varied in size, were reddish-gray or grayish-yellow, and were without appreciable odor. In a few very early cases the lesions were reddish. Smears and cultures showed staphylococci in all. Sections of early lesions stained by the Gram method showed numerous clusters of staphylococci in bronchial branches and in alveoli, whereas the regional blood vessels were uninvolved. The histologic picture of the early lesion of this type of abscess differs greatly from that of the embolic type already described.

It has been found at autopsy that the lesion in the so-called typical lung abscess of man is frequently one of gangrene and not of abscess. In contrast to abscess, the fully developed characteristic lesion of gangrene is ragged, penetratingly foul smelling, and brownish or greenish, and smears and sections from it when properly stained show innumerable spirochetes, fusiform bacilli and vibrios. In ten cases at autopsy, the lower lobes were found involved more frequently than the others. A study of the evolution in these cases, including the examination of smears stained by strong carbolfuchsin solution and by the Fontana method, and of sections stained by hematoxylin and eosin, by the Levaditi and, better still, by the Warthin and Starry methods, shows that it begins in and about the smaller bronchial branches with characters at first those of bronchopneumonia followed then by necrosis of the exudate and of the fixed tissue. Following this the lesion steadily enlarges, and ulceration occurs in the older areas of necrosis. The lesion now is the fully developed and characteristic one of gangrene, consisting of a ragged, penetrating, foul smelling, brownish or greenish ulcerated area with innumerable oral spirochetes, fusiform bacilli and vibrios present not only in the areas of necrosis but

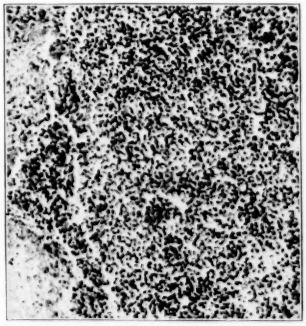

Fig. 3.—Fully developed abscess of lung; magnification about 150.

also at the advancing periphery. In a short time there is a coalescence of the ulcers with definite cavity formation, and since no tissues are spared in the progression of the gangrenous lesion, no ridges or bridges of tissue remain. In the majority of cases observed clinically, the pleura was involved, and frequently so severely as to require thoracotomy. In one case at autopsy, in addition to the pulmonary gangrene, an

14. Kline, B. S.: J. Infect. Dis. **32**: 481 (June) 1923.
15. Smith, D. T.: Experimental Aspiratory Abscess, Arch. Surg. **14**: 231 (Jan.) 1927.
16. Crowe, S. J., and Scarff, J. E.: Internat. Surg. Dig. **3**: 323 (June) 1927.

V 9
192

ulcerative lesion of the brain containing Miller-Vincent organisms was present.

The spirochetes, fusiform bacilli and vibrios of pulmonary gangrene are identical with those of the mouth. The first careful description of the spirochetes present in the mouth between the gums and the teeth was that of Miller [17] in 1883. In addition to the small slender

Fig. 4.—Staphylococci in pulmonary abscess; magnification about 750.

Spirochaeta dentium described by Koch in 1877, he observed larger forms (apparently identical with *Spirochaeta vincenti* and *Treponema macrodentium*) associated with a comma bacillus (*Spirillum sputigenes* identified by subsequent investigators as *Vibrio proteus*). The spirochetes are motile anaerobes from 4 to 15 microns long with from two to twenty irregular coils. In smears they are gram-negative. The vibrio is a motile aerobe, curved, gram-negative, from 2 to 5 microns long and about 0.5 micron thick. The fusiform bacillus first described as an inhabitant of the mouth by Vincent [18] in 1889 is an anaerobe, nonmotile, straight, spindle-shaped, pointed at the ends, gram somewhat variable (smaller forms at times positive, large forms always negative) from 3 to 10 microns long and from 0.1 to 0.4 micron thick.

In spite of the older observations of anaerobes in the mouth, there is still some confusion concerning the frequency of their occurrence. For instance, in a recent textbook of bacteriology,[19] the statement is made that the organisms of Vincent's angina are rarely if ever found in the healthy mouth. In a study [20] with Dr. H. Steuer of 372 mouths in different hygienic states, it was found that the Miller-Vincent organisms here described were present in the interproximal spaces not only in the grade D, C and B mouths but also in the vast majority of mouths not showing any appreciable abnormalities.

Evidence that these oral anaerobes produce severe lesions has been reported by many observers. Plaut [21] in 1894 and Vincent [22] in 1896 pointed out the relationship of these organisms to the angina that bears their names. Since then one or more of the Miller-Vincent organisms have been reported as causative agents in noma, ulcerative gingivitis, dental caries, and ulcerative lesions of the external genitalia and of the rectum. Perhaps the lesion most frequently produced by these organisms is a gingivitis. When observed early, the gums are somewhat swollen and injected and bleed readily on pressure. The commonest sites are adjacent to the rear molars. Overlying the swollen gums there is usually a yellowish-white exudate containing the characteristic spirochetes, fusiform bacilli and vibrios. This lesion, although frequently overlooked by the patient and by the physician, is a menace to the health, since from it the organisms may be aspirated into the lung and produce gangrene. The fully developed and characteristic gingival lesion produced by the Miller-Vincent organisms is that of gangrene with ulceration. The presence of spirochetes and fusiform bacilli in pulmonary gangrene was first reported in 1905 by Rona,[3] who believed not only that these organisms produced the gangrene but also that carious teeth were their source. Supporting these observations are those of Buday,[23] reported in 1910. In a study of thirty-five cases of bronchial, bronchopulmonary and pulmonary gangrene, Buday found innumerable spirochetes, fusiform bacilli and comma bacilli in the involved areas. In the bronchial lesions, the fusiform bacilli and comma bacilli were present in larger numbers than the spirochetes. In the gangrenous areas of the lungs, however, the spirochetes predominated, innumerable organisms of this type being present not only in the necrotic tissue but also at the margins toward the intact lung. From a careful microscopic study of his cases, Buday concluded that in acute bronchogenic gangrene of the lung, especially of progressive character, spirochetes, fusiform bacilli and comma bacilli are in the vast majority of cases the causative agents and not secondary invaders.

More important in establishing the etiologic relationship of these organisms to gangrene than their presence

Fig. 5.—Fully developed gangrene of lung; magnification about 75.

in early gangrenous areas and at the margins of more advanced ones is the fact that, with material containing them, similar lesions have been produced in animals. The experimental production of typical gangrene was first reported by Veszpremi [24] in 1905 in rabbits subcu-

17. Miller, W. D.: Micro-Organisms of the Human Mouth, S. S. White Dental Manufacturing Company, 1890, p. 80.
18. Vincent, M. H.: Ann. de l'Inst. Pasteur. **13:** 609, 1899.
19. Stitt, E. R.: Practical Bacteriology, Blood Work and Animal Parasitology, ed. 8, Philadelphia, P. Blakiston's Son & Co., 1927, p. 585.
20. Kline, B. S., and Berger, S. S.: J. Am. Dental A. **15:** 64 (Jan.) 1928.
21. Plaut, H.: Deutsche med. Wchnschr. **49:** 920, 1894.
22. Vincent, M. H.: Ann. de l'Inst. Pasteur. **12:** 488, 1896; **13:** 609, 1899.
23. Buday, K.: Beitr. z. path. Anat. u. z. allg. Path. (Ziegler's) **48:** 70, 1910.
24. Veszpremi, D.: Centralbl. f. Bakteriol., Orig. **38:** 136, 1905; **44:** 408, 1907; **45:** 15, 1908.

taneously injected with material containing spirochetes and fusiform bacilli.

Additional evidence of the relationship of spirochetes and fusiform bacilli to gangrene is the fact that the injection into traumatized tissues of material not only from pulmonary gangrene but also from Vincent's angina, dental caries and ulcerative gingivitis, containing innumerable mouth spirochetes and fusiform bacilli, produced typical gangrene in guinea-pigs.[14] In the material from the cases of angina, these organisms were almost entirely the characteristic spirochetes and fusiform bacilli. Furthermore, the microbic nature of gangrene was demonstrated by its production with these organisms after they had been passed through thirty-four guinea-pigs. The most conclusive proof that mouth spirochetes and fusiform bacilli cause pulmonary gangrene was the production of gangrene of the lung in a rabbit by the intrabronchial injection of material from dental caries in which the mouth spirochetes and fusiform bacilli overwhelmingly predominated.

These microscopic and experimental observations strongly suggest that mouth spirochetes, fusiform bacilli and vibrios are extremely virulent under certain conditions but are ordinarily kept in check by a complete tissue immunity. When, however, the local resistance of a tissue is reduced (by trauma, inflammation, local anemia or tumor formation), these organisms exhibit their pathogenicity in a striking fashion by the production of a progressively enlarging gangrenous lesion.

Fig. 6.—Oral spirochetes, fusiform bacilli and vibrios in gangrene of lung (Warthin-Starry stain); magnification about 750.

Just as the lesion of pulmonary abscess differs greatly from that of pulmonary gangrene, the sputum of each of these diseases is characteristic. In cases observed clinically, a careful examination of the sputum is sufficient for a differential diagnosis. In cases of pulmonary abscess it is mucopurulent or purulent without appreciable odor, and when washed it shows the pyogenic organisms in cultures and smears stained by the Gram method. In the cases of pulmonary gangrene, on the other hand, the sputum is foul smelling and grayish brown or grayish green, and when carefully washed it shows the characteristic spirochetes, fusiform bacilli and vibrios in smears stained by strong carbolfuchsin solution or by the Fontana method.

As the cases of pulmonary gangrene do not respond well to the treatment for abscess but are frequently cured by arsphenamine therapy, the differentiation between these two diseases is imperative.

SUMMARY

Pulmonary abscess was observed more frequently in children than in adults, and in the majority of instances was apparently of aspiratory type. The remainder, embolic in type, were invariably associated with abscesses elsewhere in the body and almost always with a staphylococcus septicemia.

Pulmonary abscesses vary in size, are reddish gray or grayish yellow, and do not have an appreciable odor. Smears and cultures show the pyogenic organisms. In sections of early lesions stained by the Gram method, the abscess of the aspiratory type is readily differentiated from that of the embolic type. In the former, numerous clusters of staphylococci are observed in the bronchial branches and in the alveoli, whereas the blood vessels are uninvolved. In the embolic abscesses, on the other hand, early lesions show clusters of staphylococci in the lumens and walls of the blood vessels and none in the regional bronchial branches.

The prognosis in cases of aspiratory lung abscess is fair.

Pulmonary gangrene, comparatively, is a much more severe disease, occurring more frequently in adults than in children. At the Mount Sinai Hospital of Cleveland in the past four years, more cases of pulmonary gangrene were observed than of pulmonary abscess.

There is conclusive anatomic and experimental evidence that pulmonary gangrene is caused by a group of organisms, notably spirochetes, fusiform bacilli and vibrios, aspirated from the oral cavity.

The lesion of pulmonary gangrene when fully developed is a ragged, penetratingly foul smelling, brownish or greenish ulcerated area. Smears from the lesion stained by strong carbolfuchsin solution or by the Fontana method and sections of the lesion stained by the Levaditi or, better still, by the Warthin-Starry method, show oral spirochetes, fusiform bacilli and vibrios as the predominating organisms.

In cases observed clinically, a careful examination of the sputum is sufficient to enable one to make a differential diagnosis between pulmonary abscess and pulmonary gangrene. In the cases of pulmonary abscess, the sputum is mucopurulent or purulent without appreciable odor. When washed it shows the pyogenic organisms in cultures and in smears stained by the Gram method. In the cases of pulmonary gangrene, on the other hand, the sputum is foul smelling and grayish brown or grayish green, and when carefully washed it shows the characteristic spirochetes, fusiform bacilli and vibrios in smears stained by strong carbolfuchsin solution or by the Fontana method.

CONCLUSIONS

1. Pulmonary abscess and pulmonary gangrene are separate entities. In spite of distinguishing characteristics they are, however, almost universally considered and treated as one disease.

2. Pulmonary abscess unassociated with a focus of suppuration elsewhere in the body is aspiratory in type and offers a fair prognosis.

3. Pulmonary gangrene, comparatively, is a much more severe disease and occurs more frequently than is generally believed.

4. There is conclusive anatomic and experimental evidence that pulmonary gangrene is caused by a group of organisms, notably spirochetes, fusiform bacilli and vibrios, aspirated from the oral cavity.

V 9
192

5. In cases observed clinically a careful examination of the sputum is sufficient to make possible a differential diagnosis between pulmonary abscess and pulmonary gangrene. In the cases of pulmonary abscess, the sputum is yellowish, mucopurulent or purulent and has no appreciable odor. When washed it shows the pyogenic organisms in cultures and in smears stained by the Gram method. In the cases of pulmonary gangrene, on the other hand, the sputum is foul smelling and grayish brown or grayish green, and when carefully washed it shows the characteristic spirochetes, fusiform bacilli and vibrios in smears stained by strong carbolfuchsin solution or by the Fontana method.

6. As the cases of pulmonary gangrene do not respond well to the treatment for abscess but are frequently cured by arsphenamine therapy, the differentiation between these two diseases is imperative.

7. Spirochetal pulmonary gangrene may be prevented by proper oral hygienic or therapeutic measures.

1800 East One Hundred and Fifth Street.

MASSIVE LIPOMA OF THE SUBCUTANEOUS TISSUE OF THE BACK

REPORT OF CASE

HENRY S. MARTIN, M.D.
WARSAW, N. Y.

Lipomas are the most common connective tissue tumors and may occur in any part of the body in which there is adipose tissue. They are most frequently seen in the subcutaneous fat tissue of the back, shoulders, and neck and usually occur singly, although they may often be multiple. Their growth is usually very slow and gradual but it may vary from a stationary condition to a very active process. They sometimes develop to an enormous size and, as a class, are probably the largest solid tumors. The rarer retroperitoneal lipomas probably attain the greatest size; a few cases are on record in which the growths weighed from 60 to 70 pounds (27 to 32 Kg.).

Boyd [1] states that the lipoma is the most innocent type of tumor growth known and that there is no malignant form. They are true tumors, however, for the reason that their fat is not reduced in quantity during the course of a general wasting disease. He believes that although the retroperitoneal lipoma is commonly known as a lipoma, it is extremely doubtful whether it merits such an innocent name, for myxomatous and sarcomatous areas are not infrequently found. Normal fat and lipoma fat closely resemble each other in every way except physiologically, as indicated.

Usually a lipoma has a fibrous capsule and is divided into lobules by fibrous septums. The capsule and septums are very thin and delicate, but following inflammation or irritation they may become greatly thickened. The tumors tend to become pedunculated when they occur in areas in which traction is exerted by their weight. The changes that most frequently occur in lipomas are ulceration followed by secondary infection, gangrene and calcareous degeneration.

This case is reported chiefly because of the unusually great size of the tumor but also on account of the long duration and the extreme degree of degeneration.

1. Boyd, W.: Surgical Pathology, Philadelphia, W. B. Saunders Company, 1925.

REPORT OF CASE

J. D., a white man, aged 78, a farmer, widower, father of six children, referred by Dr. Maria H. Humphrey of Castile, N. Y., was admitted to the Wyoming County Community Hospital, Oct. 26, 1927, complaining of general weakness and a tumor of the back. The growth, when first noticed fifty-eight years before, was approximately the size of a walnut and located between the shoulder blades. Forty years before it was approximately the size of a large grapefruit. It had never been painful or tender. Increase in size had been very gradual until one year before, when the growth, without appreciable cause, became more active. The patient's health was good and he was able to do hard manual labor in spite of the burdensome mass, until a painless ulcer appeared in July, 1927, after which time his health failed rapidly. He had repeatedly refused the advice of physicians to have the growth removed because many friends had told him that removal of the tumor would result in instant death. He entered the hospital with the expectation of an early death whether or not the growth was removed.

Fig. 1.—Lateral view of the growth, Oct. 28, 1927, showing area of gangrene.

On admission the patient appeared very weak and toxic but was able to walk with assistance. The temperature was 100.4 F. and the pulse 88. The hemoglobin was 43 per cent and the white blood cells were 26,100, with 85 per cent polymorphonuclears. The blood pressure was 164 systolic and 92 diastolic. Phenolsulphonphthalein secretion was 30 per cent at the end of two hours. His manner was indifferent; his facial expression was that of utter despair. A massive, pedunculated, moderately firm tumor hung from the base of the neck and from the region between the upper thirds of the scapulae. The growth covered the back like a huge pack and was so heavy that he had to bend forward markedly to balance it. The odor of a gangrenous area, with its thin, seropurulent discharge in the right dependent portion of the mass, was very foul. The measurements were: length, 21½ inches (54.6 cm.); breadth, 19½ inches (49.5 cm.), and circumference, 50 inches (127 cm.). The circumference of the pedicle was 22 inches (55.5 cm.). There was also a small mass (apparently a lipoma) of the subcutaneous tissue over the right sternoclavicular articulation.

For three days he was prepared for operation by carbohydrate diet, pneumococcus vaccine, tincture of digitalis, sodium bicarbonate and forced fluids. However, his general condition failed to improve and the temperature gradually increased to 102 F.

The operation was performed in the sitting posture under local anesthesia (procaine hydrochloride, 1 per cent). The skin of the pedicle was very adherent to the underlying, dense, fibrous capsule. All masses of fat were dissected out from the pedicle. There was practically no blood loss. The undermined skin edges were approximated by interrupted vertical mattress silk sutures. At the completion of the operation the patient was immediately given a transfusion of 600 cc. of blood by the Unger technic, which was followed by a very definite general improvement. No reaction resulted from the transfusion.

The macroscopic appearance of the specimen, as reported by Dr. Harold A. Patterson, was as follows: The tumor

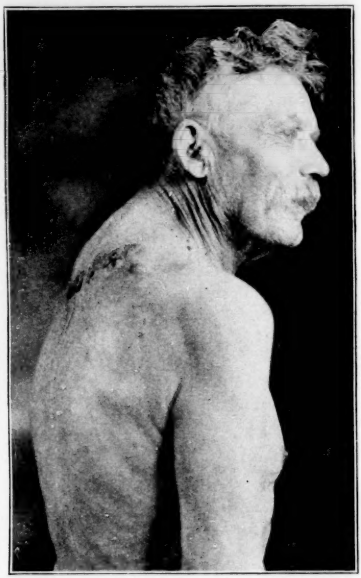

Fig. 2.—Appearance of patient, November 17, showing result of operation.

weighed 59¼ pounds (27 Kg.). The skin was markedly dimpled as a result of the extension of the fibrous trabeculae from the capsule of the growth. In the right lower portion of the mass was a gangrenous area of the skin and capsule 4 inches (10 cm.) in diameter, and immediately above was a globular area 7 inches (17.8 cm.) in diameter containing foul, gangrenous, fatty, purulent material. In the center of the mass was another globular area 6 inches (15 cm.) in diameter filled with fermented, fatty fluid under gas pressure, apparently due to butyric acid fermentation, so marked that when it was cut down on a definite explosion resulted. Surrounding this area was a ring of connective tissue proliferation 1½ inches (3.7 cm.) in thickness. Located in a septum leading to the degenerated area of the center of the mass was a moderate sized, completely thrombosed artery. The remainder of the growth consisted of irregular lobules of fat separated by fibrous septums. The capsule gradually became thicker toward the pedicle, where it was almost ligamentous in character.

The microscopic examination by Dr. A. A. Thibaudeau revealed the following conditions: The material showed that the tumor was made up largely of fatty tissue. Sections from the areas containing the largest amount of connective tissue showed a considerable degree of necrosis with evidences of chronic infection. There was considerable proliferation of connective tissue with the formation of a marked fibrosis in certain areas. In others, though the degeneration was marked, the histologic architecture of muscle fibers and glandular tissue was found. These glands were apparently lined by columnar epithelium which in places appeared to be ciliated, though as previously mentioned the degree of necrosis was too great to allow a definite histologic diagnosis. In some areas also the fibrous tissue had undergone myxomatous change, and in some areas apparently evidences of cartilage were found. On the whole, despite the degree of degeneration and necrosis in the tissue, I am inclined to think we were here dealing with a dermoid cyst in conjunction with which there was also the development of a massive lipoma, either from the dermoid tissue itself or separately.

The postoperative course was uneventful with the exception of a slight chill followed by a rise in temperature to 102 F. on the day after operation. The evening temperature and pulse rate on the day of operation were normal and were again normal on the third postoperative day. The patient was up and about on the fifth postoperative day, and on November 18 was discharged as recovered.

COMMENT

After a rather extensive search of the literature on the subject of large and unusual subcutaneous lipomas, a surprisingly small number of cases were found to be recorded. Twenty case reports were reviewed. In his treatise on tumors, Nicholas Senn mentions the tumor in Rhodius's case as weighing 60 pounds (27 Kg.). J. Bland Sutton in his treatise on tumors states that lipomas weighing 100 pounds (45.4 Kg.) have been reported. Neither of these authors gives the references as to where these and other facts concerning the cases can be found. Also several surgical textbooks mention cases in a similar manner. Of the cases reviewed, Brandler,[2] in 1894, reported the largest tumor. After surgical removal it weighed 50 pounds (22.7 Kg.). The patient was a man, aged 26. The growth was of eleven years' duration. It originated from the region of the left scapula. Tumors reported by other authors varied from 5 to 33 pounds (2.3 to 15 Kg.). King[3] reported the largest growth removed by an American surgeon. It was of the hip and weighed 26 pounds (11.8 Kg.). The longest duration was reported by J. Bland Sutton[4] in a case of calcified lipoma that lasted fifty years. Durations reported by other authors varied from ten to twenty-four years.

In addition to the unusually large size and prolonged duration, the tumor here reported seemed remarkable for the extensive degeneration it exhibited. The strong possibility of the mass having either developed from or in conjunction with a dermoid cyst seemed most unusual. With the exception of the case of calcified lipoma reported by J. Bland Sutton,[4] the extent of degeneration recorded in the cases reviewed was comparatively slight. Here there was an area of degeneration with secondary infection in one part of the mass, and another rather extraordinary area in the center of the growth in which butyric acid fermentation seemed to have taken place. The latter area of degeneration may have been due to an insufficient blood supply

2. Brandler,, T. L.: Large Fibrolipoma, Brit. M. J. **1**: 574, 1894.
3. King, J. A.: Atypical Fibrolipoma of Unusual Size, J. A. M. A. **71**: 965 (Sept. 21) 1918.
4. Sutton, J. B.: Tumors, Innocent and Malignant: Their Clinical Characters and Appropriate Treatment, New York, Cassel & Co., 1917.

resulting from thrombosis of the artery. On the other hand, the secondary infection in this region may have produced the thrombosis. It would seem probable that the gas generated in this area, slowly accumulating under increasing pressure, acted as a source of chronic irritation, stimulating the formation of the thick band of fibrous tissue which surrounded this region. It is also likely that the accumulated pressure tended to expel the fat globules from the fibrous tissue stroma.

PRIMARY SARCOMA OF THE LOWER LIP*

J. VINCENT FALISI, M.D.
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WASHINGTON, D. C.

While in textbooks of surgery and pathology and in numerous articles in the journals the subject of carcinoma or epithelioma of the lip is exhaustively treated, the space devoted to sarcoma of the lip is surprisingly small, and, since this condition is as serious as epithelioma, it must be that it is comparatively rare.

Before reporting another case, I think that it may be of interest to review briefly the few cases which I have been able to find described in the literature. Of these fourteen cases, the diagnosis was doubtful in at least two, in two it was mistaken, and in three others the growth was probably not primary in the lip itself.

REVIEW OF CASES

CASE 1.[1]—This report is of a painful tumor of the upper lip with multiple recurrences but no demonstrable metastasis. A definite diagnosis was not attempted, though "alveolar sarcoma with melanosis, or melanotic carcinoma" were suggested.

CASE 2.[2]—In a man, aged 45, an habitual smoker, the lesion began as a small hard nodule in the right side of the lower lip, which became progressively larger and finally ulcerated. A clinical diagnosis of epithelioma was made, but the pathologist's report was: "The tumor is composed of many spindle cells, round cells, flat cuboidal cells and many giant cells. Bundles of spindle cells run in different directions throughout the tumor. The round cells are indistinguishable from young inflammatory cells. The giant cells are small and contain from three to ten nuclei. The vessels are abundant and thin walled." From these observations a diagnosis of mixed cell sarcoma was made. Two months after operation recurrences were found in the submaxillary and cervical nodes which, when subjected to microscopic examination, gave the typical picture of epithelioma: hence the primary growth was also epithelioma, so disguised by inflammatory cells as to lead to an erroneous diagnosis of sarcoma.

CASE 3.[3]—A man, aged 50, had had a pimple removed from his upper lip, but in a short time a recurrence appeared. The second growth was made up of myxomatous, cartilaginous, glandular and sarcomatous tissues, and was classified as a mixed cell sarcoma.

CASE 4.[4]—This report is of a sarcoma of the lip in a 5 year old girl. The primary tumor and a recurrent tumor were excised. Another recurrence was treated with mixed toxins, and the case was reported as cured.

CASES 5 and 6.—Duplaz and Reclus[5] review two cases in which the involvement may have been secondary to a primary lesion of the gum. One of these was classified as a mixed cell type and the other as of the melanotic variety.

CASE 7.[6]—A woman, aged 34, presented a growth which was diagnosed as a small round cell sarcoma. Concerning this case, Dr. A. J. Markley comments that, judging from the clinical history and from the illustrations, "this case was more probably one of granuloma pyogenicum."

CASE 8.[7]—A young girl presented a tumor of the lower lip, which in about three weeks had grown to the size of a pea. This was removed and on microscopic study proved to consist of embryonic connective tissue made up of fusiform and round cells, with vessels so dilated as to form blood spaces.

CASE 9.[8]—In a man, aged 77, a growth of the upper lip had attained the size of a hazelnut over a period of fifteen years. It continued to grow slowly until at the end of fifty years it had attained a weight of 2 Kg. Histologic examination showed it to be a sarcoma of fusiform cells, which Schwartz believed was engrafted on a primary benign growth.

CASE 10.[9]—In a case resembling macrocheilia and lymphangioma cavernosum, in which the whole lower lip was involved, showing an ulcerated, bleeding surface, no metastasis or any enlarged regional nodes could be found. A diagnosis of large cell sarcoma was made.

CASE 11.[10]—A woman, aged 22, presented a tumor in the left side of the upper lip, over which the skin and mucous membrane moved freely, and without ulceration. Examination

Fig. 1.—Tumor and skin edge.

of the removed tissue resulted in a diagnosis of globocell sarcoma, infiltrating the muscles of that region.

CASE 12.[11]—A man, aged 70, in general good health, when first seen by Darier presented a lesion that was three years old and had been treated with local applications. After this time it began to show progressive enlargement, with later ulceration and swelling of the submaxillary and cervical nodes. From the clinical manifestations the lesion had been diagnosed as an epithelioma, but after microscopic study of biopsy material Darier classified it as an atypical sarcoma with polymorphic cells.

CASE 13.[12]—In a man, aged 76, the sting of an insect resulted in a small lesion resembling a fever blister which repeatedly would alternately heal and reappear, until finally swelling and ulceration took place. It was not painful. The patient did not use tobacco. The lesion, at the time of examination, was described as a rounded mass, about 1.5 cm.

* From the Laboratory Service, Fitzsimons General Hospital, Denver.
* Published with permission of the Surgeon General, U. S. Army, who is not responsible for any opinion expressed or conclusions reached herein.

1. Mott, F. W., and Steeves, G. W.: Tr. Path. Soc. London, 1866.
2. Coley, W. B.: New York M. J. **53**: 706, 1891.
3. Hodenpyl: Mixed Cell Sarcoma of the Upper Lip, Proc. New York Path. Soc., April 8, 1891.
4. Coley, W. B.: Recurrent Round Cell Sarcoma of the Lip, New York Post Grad. **12**: 346 (May) 1897.
5. Duplaz and Reclus: Surgery, 1898.
6. Maunsell, R. C. B.: Primary Sarcoma of the Lip, Tr. Roy. Acad. M. Ireland, 1900.
7. Geroud: Sarcome telangiectasique de la lèvre inférieure, Bull. et mém. Soc. anat. de Paris **77**: 298, 1902.
8. Schwartz: Fusocelled Sarcoma of the Cheek Involving the Lip, Paris chirurg., May 20, 1903.
9. Langston, Q.: Primary Sarcoma of the Lip, Indian M. Gaz., July, 1909.
10. Hardouin, P.: Sarcome de la lèvre supérieure, Bull. et mém. Soc. Anat. de Paris **55**, 1909.
11. Darier, J.: Lymphosarcoma of the Lower Lip, Ann. de dermat. et syph., series 5, **2**: 226, 1911.
12. Landon, L. H.: Mixed Cell Sarcoma of Lower Lip, Ann. Surg. **58**: 545, 1913.

in diameter. The surface presented an ulcer with an indurated base. The submaxillary and cervical nodes were enlarged. From the clinical observations, a diagnosis of epithelioma was made. Microscopic examination disclosed a normal skin surface, except at the point of ulceration, and a subcutaneous area of spindle cells arranged in more or less definite bands. There were recurrences in the nodes along the sternomastoid, and sections from these showed the same type of growth. About six months after operation the

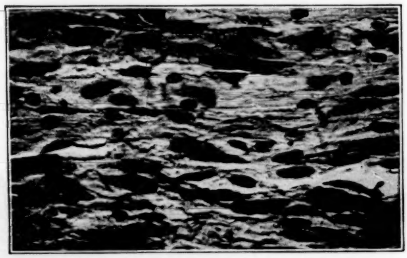

Fig. 2.—Replacement of muscle cells by tumor cells.

patient died, following extensive involvement of the upper lip, tongue and floor of the mouth, though no clinical evidence of distant metastasis was observed. No mention was made of a postmortem examination.

CASE 14.[13]—A man, aged 65, presented a lesion which began as a small nodule, on the vermilion border. The growth, which later ulcerated, could be felt within the tissues of the lip, and a group of nodules could be felt in the submental region. A diagnosis of epithelioma was made and the growth was removed by radical operation. Microscopic examination of the excised growth showed it to be a small round cell sarcoma. About six months after operation, there was recurrence in a nodule on the border of the sternomastoid. Though this nodule was removed, it was lost before examination. One year later no recurrence had been noted.

CASE 15.[14]—A man, aged 65, showed a growth which seemed to be within the upper lip. It was not painful. The mucous membrane was denuded but no deep ulcer was present. The appearance of the lesion was suggestive of syphilis and two dark-field examinations were made, both of which were negative. The lesion was now thought to be a phlegmon, and was treated by making a crucial incision and curetting. From the scrapings a diagnosis of round cell sarcoma was made, and the entire lip was removed. Further study confirmed the diagnosis, and roentgen-ray therapy was instituted. About two months after the first surgical intervention death occurred, and postmortem examination revealed metastasis in the submaxillary, mesenteric and abdominal nodes, and in the kidneys, suprarenals and intestinal wall.

REPORT OF AUTHOR'S CASE

History.—H. B., a robust white man, aged about 35, an ex-soldier and farmer, had never served in the tropics and, aside from the usual diseases of childhood, had not had any illness of interest, though for a number of years he had had psoriasis. He stated that he had never had any venereal disease, and did not use alcohol and tobacco; no evidence of trauma to the lip could be elicited in his history.

In October, 1924, he developed a central "cracked lip" which would not heal, remaining sore until February, 1925, when the lip began to swell. In April a sinus formed, opening on the inner surface and discharging a thick, yellowish, foul smelling pus, which gradually thinned to the consistency of serum; finally the discharge ceased and the opening was closed in May. During the period of discharge several observers made a diagnosis of sporotrichosis, but whether or not the organism isolated was proved to be pathogenic is not known. Large doses of a saturated solution of potassium iodide—up to 270 minims (16 cc.) three times a day—and roentgen-ray treatments were given, but without apparent effect on the lesion, since the tumor continued to increase in size.

Examination.—When the patient was admitted to the hospital, the lip presented a very definite circumscribed enlargement more on the right side, which on palpation was firm in the center with a zone of surrounding induration. A healed scar was noted in the center of the inner surface of the lip, but there was no visible opening or discharge. The general condition was excellent; the weight was about 162 pounds (73.5 Kg.), and there were no symptoms subjective or objective other than those described.

A few days later, an opening appeared on the inner surface, from which a small amount of thick, yellowish pus could be expressed. Microscopically, this pus showed a few pus cells and gram-positive cocci. On culture, a rapidly growing yeast also developed which was not pathogenic to guinea-pig or mouse, and hence was not believed to be an etiologic factor but rather a mouth contaminant. All other laboratory observations were negative.

A section of the tumor was removed for histologic study, the surgeon reporting the growth to be very resistant to the knife. Low power examination of sections showed a normal skin edge and corium. Directly beneath this latter layer, however, one was struck with the great number of closely packed, spindle shaped cells, in a general architectural confusion, and the immediate impression was that of a new growth of a connective tissue type. Under higher magnification, striated muscle fibers were seen which were being displaced by the neoplasm, and numerous mitotic, pyknotic and monster nuclei.

Treatment and Course.—As a result of deep roentgen-ray therapy there was a decided decrease in size. In May, 1926, the patient was transferred to another hospital where, following radium therapy, the growth was further reduced in size. However, when he was readmitted to this hospital in October, 1926, the general condition was very poor, and emaciation and weakness were marked. Most of the lower lip had sloughed and osteomyelitis and necrosis of the mandible were evident.

Fig. 3.—Mitotic figures.

Roentgen-ray examination of the chest revealed probable metastasis in the left lung. There was a continuous retrogression of his general condition until death, Dec. 9, 1926.

Necropsy.—Postmortem examination done by Dr. H. R. Livesay disclosed that the weight was about 105 pounds (47.6 Kg.) and that there were no glandular enlargements. The pupils were dilated and equal. The lower gum line and anterior surface of the mandible were exposed by marked necrosis. The condition of the right lung was unimportant. In the left lung were two nodules of new growth, one measur-

13. Markley, A. J.: Primary Sarcoma of the Lower Lip, J. A. M. A. **61**: 334 (Aug. 2) 1913.
14. Sweitzer, S. E., and Michelson, H. E.: Primary Sarcoma of the Upper Lip, J. A. M. A. **77**: 1563 (Nov. 12) 1921.

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192

ing 2 by 2 by 1 cm., in the lower part of the upper lobe near the hilum, the other somewhat smaller in the apex posteriorly. These were homogeneous, and grayish white. The rest of the examination, including the bones, was negative as to metastases.

Microscopic sections from the two nodules in the lung showed the same type of cells and their arrangement as was seen in sections from biopsy material, though mitotic figures were not so numerous.

COMMENT

While in the typical case it may be possible from the clinical manifestations alone to differentiate between carcinoma and sarcoma of the lip, yet from the foregoing reports it is interesting to note that the two neoplasms may be confounded. In each there may or may not be a history of trauma, use of tobacco, rapid growth, early ulceration, involvement of regional nodes and distant metastases. These reports also show that sarcoma may occur in either sex, and the age incidence ranges from 5 years to 76 years.

Microscopic study of the primary lesion alone may also lead to an erroneous conclusion, as in Dr. Coley's case, in which, because of the predominating spindle cells, the growth was diagnosed as sarcoma, when in fact, after a study of the metastases, it proved to be an atypical carcinoma. In the case here reported, the biopsy sections were diagnosed by various observers as spindle cell sarcoma, malignant leiomyoma and atypical carcinoma, while all who examined the sections taken from the metastatic nodules in the lungs were agreed on sarcoma.

Through the courtesy of Dr. Broders of the Mayo Clinic I was privileged to study several sections which at first sight appeared to be spindle cell sarcoma, very similar to the sections in my own case. On further study, however, the origin from the epithelium was very evident, and in areas the epithelioma type of growth was unmistakable, but a study of many sections in my case failed to show at any point an even doubtful connection between the new growth and the epithelium, nor could an area be found which even slightly resembled an epithelioma. The later examination of the metastatic growths in the lung confirmed the opinion that the growth was not epithelial in origin.

However, the type cell of origin still remains in doubt since there is a difference in opinion as to the probability of myeloblastic or fibroblastic origin, and the fact that the tissue was not fixed in Zenker's solution makes accurate differentiation impossible.

These reports also show that sarcoma as well as carcinoma may show a high degree of malignancy, and hence from a practical standpoint the same treatment is applicable to either.

Value of Culture to the Physician.—Were there any unanimity of opinion about what the duties and even the meaning of medicine are, culture might be given a larger place in the profession. Without basic scientific knowledge it is of little use, but all science is just as ineffectual. Man is the problem to understand when the doctor is confronted with illness and science does not consider man but facts. To draw logical inferences is one of the physician's duties and he cannot do so if he bases himself only on scientific knowledge. A physician may be successful though uncultured, but the majority of immortal physicians were students of matters beyond professional science. If children could develop the habit of reading, and be taught to like it, they would become men of culture as naturally as they become anything they choose to be.—Collins, J.: *New England M. J.*, **198**:189 (March 15) 1928.

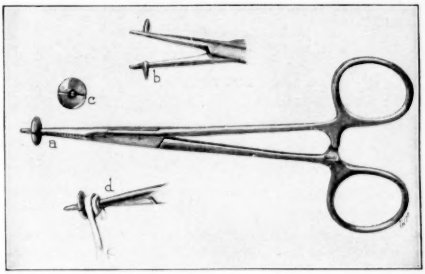
Clinical Notes, Suggestions and New Instruments

PHRENICECTOMY FORCEPS

OSCAR S. PROCTOR, M.D., SEATTLE

These forceps were designed to facilitate the extraction in phrenicectomy, or exeresis of the phrenic nerve. I had previously had trouble with the ordinary hemostat, because of the nerve slipping over its end, particularly when the former was under tension. Not infrequently, several turns of the nerve would slide off and, when rewound, the nerve seemed more apt to break.

To obviate this difficulty I had these forceps made. The nerve is caught, as shown in the illustration, just proximal to the projection, or button, on it. The short end of the forceps



Phrenicectomy forceps: *a*, assembled for use; *b*, forceps open; *c*, end view; *d*, method of extracting nerve.

projecting beyond can be placed on a hemostat or in a curved retractor, which steadies the instrument and makes the winding smooth and even. I have used these forceps for some months with much satisfaction.

Medical and Dental Building.

CEREBROSPINAL RHINORRHEA WITH PNEUMOCEPHALUS SECONDARY TO SKULL FRACTURE *

WALTER BROMBERG, M.D., NEW YORK

Cerebrospinal rhinorrhea secondary to fracture of the base of the skull in the anterior fossa, through the frontal sinus, is not infrequently seen. When it occurs it clears up spontaneously with the healing of the fracture, in the majority of the cases. When it persists, the management of this complication of fracture becomes a serious problem of judgment because of the extremely high incidence of meningitis infection following any type of procedure. Pneumocephalus (intracranial pneumocele) is a rare complication of this type of injury; reports of twenty-eight cases had been collected by Dandy[1] up to 1926. In the treatment of this condition plastic procedures, from a cranial or intranasal approach, are attended by the difficulties of infection and mechanical problems. More recently, radiotherapy has been used with questionable success.

In the case here reported, the utilization of physiologic principles was so gratifying that its report seems justified. The occurrence of the pneumocephalus with extension into the ventricles is also of interest.

J. B., an Italian, aged 31, admitted to the hospital, Dec. 7, 1927, complained of headaches, drowsiness, weakness of the left extremities, and a constant flow of clear fluid from the right nostril, for about seven weeks. The past history was

* From the neurologic service of Dr. Israel Strauss, the Mount Sinai Hospital.

1. Dandy, W. E.: Pneumocephalus (Intracranial Pneumatocele or Aerocele), Arch. Surg. **12**:949 (May) 1926.

negative. Seven weeks before, while riding a motorcycle, he was thrown from it; he struck his head and was rendered unconscious. He was treated at another institution for skull fracture for a period of three weeks, being discharged as well. Roentgenograms demonstrated a fracture of the frontal and parietal bones on the right, extending over the supra-orbital ridge; there

Fig. 1.—Appearance of pneumocephalus on admission (anteroposterior view).

was also a fracture of the right nasal bone. The patient returned home but did not work. A short time after the accident, while still in the hospital, he noted a constant flow of clear fluid from the right nostril. About a month later weakness of the left arm and later weakness of the left leg was noted; there were no convulsions or jacksonian twitchings. There was also a history of headaches for several weeks, and mental dulness.

On admission to the hospital the patient presented left-sided weakness of the upper and lower extremities; weakness of the

Fig. 2.—Lateral view of pneumocephalus as it appeared on admission.

left facial muscle, and increased reflexes on the left, with Babinski and Hoffman signs on that side. There was definite evidence of mental dulness, irritability and lack of interest in the surroundings; cooperation for the examination was very poor. Systemic examination did not show gross abnormalities. The nares were reddened, especially on the right, and a clear, colorless fluid dripped from the right nasal cavity at the rate of 0.5 cc. a minute. It could be increased on bending the head forward and on compressing the jugular veins in the neck. There was also evidence of a depression in the supra-orbital bone on the right. The focalizing neurologic signs, together with the cerebrospinal rhinorrhea and the history of fracture of the anterior of the skull, pointed toward a lesion in the right frontal cerebral lobe, in the nature of a laceration of the brain and the dura covering the cribriform plate or the wall of the right frontal sinus. Roentgenograms taken on admission did not show evidence of fracture (fig. 1) but they showed a pneumocele occupying a large part of the right frontal lobe; it was observed not to move when the position of the head was changed. Air was also noted in the right ventricle and in the third and fourth ventricles. No local examination of the nasal mucous membrane was attempted because of the danger of infection being introduced.

It was decided to try radiotherapy as a means of stopping up this dural rent; two exposures over the region of the frontal sinus were given without success. At this point Dr. Israel Strauss noted that the flow of fluid could be controlled almost entirely when the head was held so that the nasal cavity would be in a horizontal position. He assumed that continual flow of spinal fluid militated against the spontaneous repair of the dural and body break by tissue proliferation.

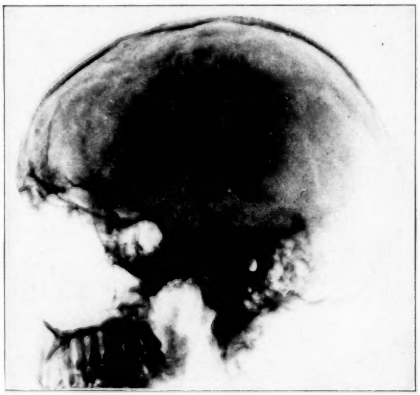


Fig. 3.—Almost total disappearance of air one month later.

The patient was cautioned against coughing and sneezing and was placed in a prone position. At his suggestion the head was immobilized with sand-bags, with one placed on the forehead. In this position he remained for three weeks, carrying on all his activities without moving his head. At the end of that time he was allowed up, and finally, he was encouraged to walk about. By this time the mentality had cleared up markedly, the headaches disappeared and the general alertness returned. There was no flow of spinal fluid from the nares. Examination showed slight weakness of the left extremities with persistence of mild left-sided signs; the left facial weakness was no longer present. Roentgenograms taken one month after the first series showed an almost complete disappearance of the pneumocephalus. The patient was discharged as well but cautioned against strenuous work. He was seen a month and a half later; at this time roentgenograms were entirely clear of evidence of air, and the patient was healthy and happy and back at work. There were no neurologic signs at that time.

Although there is no direct evidence, it is certain that the air entered the cerebral lobe through the frontal sinus or the cribriform plate of the ethmoid bone. Further, there must undoubtedly have been a communication through the cortical tissue into the lateral ventricle on the right.

V 90
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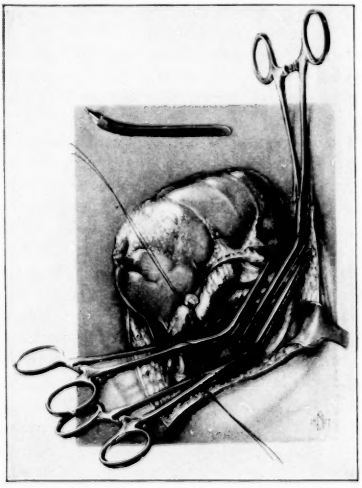
In this case, in which no cranial operation was indicated and intranasal manipulation would have been accompanied by the grave danger of infection, a healing of the dural break was effected by conservative means, and the absorption of the intracranial air, with the disappearance of symptoms secondary thereto, was accomplished.

1 East One Hundredth Street.

A NEW KIDNEY PEDICLE CLAMP

NELSE F. OCKERBLAD, M.D., KANSAS CITY, MO.

Without entering into a discussion of the technic of nephrectomy, I may point out that the securing and proper ligation of the pedicle is the most important single step in the operation. The value of the three-clamp technic has been adequately demonstrated and is made a part of the operative procedure by most kidney surgeons today. When the kidney pedicle is mobile and elastic, and the kidney can be delivered up out of the wound, any of the forceps commonly in use will do. However, in the cases in which nephrectomy is indicated, great difficulty is often had with the pedicle.



Three clamps of new type of kidney forceps in place on a kidney pedicle.

The accompanying illustration shows the three clamps of a new type in place on a kidney pedicle. The angle of the forceps is such that its handle is out of the way when the blade is clamped on the kidney pedicle. The jaws are light enough not to take up valuable space and strong enough for any emergency. These jaws have no mouse tooth, are serrated the long way, and are made with a box lock. The projection of the point of the clamp beyond the pedicle simplifies the placing of the ligature. The instrument has been in use for more than two years and has been a distinct aid in difficult nephrectomies. The forceps are made by the Kny-Scheerer Corporation.

1025 Argyle Building.

Research in Medicine.—The science of medicine requires workers imbued with the scientific spirit. Opportunities must be available for men who want to learn about disease. These men must be stimulated, and their work given appreciative recognition by workers in better established fields. The bestowal of this recognition and stimulation offers one way in which science may be advanced.—Cole, Rufus: *Science* **67**:52 (Jan. 20) 1928.

Council on Pharmacy and Chemistry

PRELIMINARY REPORTS OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING PRELIMINARY REPORT. W. A. PUCKNER, SECRETARY.

METRAZOL ("CARDIAZOL")

Under the name "Cardiazol," a product manufactured by Knoll A.-G., Ludwigshafen a/Rh., Germany, has been marketed by E. Bilhuber, Inc., New York, with the claim that it has actions similar to camphor as "An emergency Stimulant and Regulatory Agent for the Heart." Chemically, the product is claimed to be pentamethylentetrazol.

Consideration of "Cardiazol" having been requested, the Council's Committee on Nomenclature reported that the name "Cardiazol" conflicted with the rule of the Council which provides against the recognition of therapeutically suggestive names, in that the name suggested "for the heart," and that this would lead to the use of the product for heart conditions without consideration of its chemical character. The committee recommended that the name Metrazol—a contraction of the chemical name, pentamethylentetrazol—be considered acceptable, and that, if assurance is received that the product will not be marketed in the United States under another name, the product, if otherwise found acceptable, would be accepted when the name Metrazol has been adopted by the distributor, permission being given to include the term Cardiazol as a synonym on the labels and in the advertising for one year from the date of acceptance of the product, provided it is used bona fide for information only, and not for advertising.

The A. M. A. Chemical Laboratory was requested to check the tests and standards furnished by the distributor for the identification of the product and control of its uniformity. The Laboratory found the tests adequate as a means of insuring the identity and uniformity of the product, and also found the nitrogen content to check fairly close to theory. While the chemical evidence of exact structure is not as convincing as the Laboratory would like to see, yet it is believed that there is justification for assuming the product to be pentamethylentetrazol.

An experienced worker in this field who investigated "Cardiazol" for the Council found in experiments and observations on animals that the product was a very uncertain respiratory stimulant in conditions of depressed respiration in which carbon dioxide, epinephrine and ephedrine were markedly effective; that as a circulatory stimulant it usually caused a rise of blood pressure only in convulsive doses; that it did make irregularly beating hearts beat more regularly, but only at expense of depression of rate and amplitude. The investigator carried out the following clinical trials: "Cardiazol was given by mouth, in dosage of 1½ and 3 grains every four hours, to four patients with decompensated myocarditis, one of them with auricular fibrillation: vital capacity was estimated before, during and after the course of Cardiazol. In no case was there any definite effect, subjective or objective (pulse rate, blood pressure, vital capacity, electrocardiogram). In four other patients whose chief complaints did not depend on cardiac weakness, Cardiazol was injected subcutaneously—dose, 1½ to 3 grains. In no case was there a definite change in pulse rate, blood pressure or electrocardiogram."

These pharmacologic studies and the clinical trials do not give warrant to the enthusiastic recommendations which are found in the published literature, particularly that which comes from European countries and which is the basis for the advertisements of the American distributor. There is as yet no really satisfactory or conclusive evidence that the substance is an effective and useful stimulant of the mammalian heart, or that nontoxic doses are effective for respiratory stimulation. However, further investigation appears desirable.

The Council has therefore postponed definite action on the product to await confirmatory evidence and has authorized publication of this report.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JUNE 23, 1928

THE PREVALENCE OF UNDULANT OR MALTA FEVER

The direction of the attention of physicians to the possibilities of infection with *Bacterium tularense* has served in recent months to bring to light the unexpected occurrence of cases of tularemia in various parts of the United States. Authentic reports of cases have been made from states extending from the Atlantic to the Pacific coast. Tularemia is thus becoming a recognized American infectious disease which requires the aid of the laboratory for correct diagnosis. Another bacteremia that seems destined likewise to present a public health problem is undulant fever, more commonly designated as Malta fever. The microbic etiology of this was demonstrated forty years ago by Bruce, and the malady is well known in Europe. Endemic foci are said to exist along the coast of the Mediterranean, and several adjacent states are reported to experience almost continual infection. The first case in man in the United States was described by Craig a quarter of a century ago.[1] More recently recurring reports [2] indicate that undulant fever is much more common in this country than has been anticipated. Thus, an officer [3] of the United States Public Health Service has summarized the diagnostic experience in a midwestern state laboratory with the conclusion that there undulant fever presents a health hazard comparable with that of typhoid.

There is a close relationship between *Brucella melitensis* causing undulant fever, or Malta fever in goats, and *Brucella abortus* causing contagious abortion in cattle. For some time the infectiousness of *Brucella abortus* for man has been suspected, but absolute evidence was not obtainable till 1924, when Keefer [4] described such a case. Cattle may thus prove to be responsible for the spread of undulant fever.

1. Craig, C. F.: Malta Fever: Its Occurrence in the United States Army, with Review of the Literature, Am. J. M. Sc. **125**: 105, 1903.
2. Hull, T. G., and Black, L. A.: Undulant Fever as a Public Health Problem, J. A. M. A. **88**: 463 (Feb. 12) 1927.
3. Hardy, A. V.: Malta Fever: A Problem for State and Municipal Laboratories, Pub. Health Rep. **43**: 503 (March 2) 1928.
4. Keefer, C. S.: Report of a Case of Malta Fever Originating in Baltimore, Bull. Johns Hopkins Hosp. **35**: 6 (Jan.) 1924.

The differential diagnosis of undulant fever due to the organisms described is at present dependent entirely on laboratory evidence. Hardy [3] insists that the state and municipal laboratories have an unusual opportunity to contribute to the study of Malta fever. Blood will be received from a large proportion of patients with a prolonged undiagnosed fever. At present, few general practitioners think of the possibility of meeting Malta fever, but typhoid or paratyphoid will be considered. Having these in mind, they will send blood for a Widal test. Experience indicates that in all such cases an examination for Malta fever should be done. The laboratory, Hardy concludes, should take the lead here and investigate in a direction not requested by the physician. Only when the disease becomes generally known and clinically suspected should the laboratory worker wait for the physician to request the examination. Hardy believes also that the diagnosing of a greater proportion of the cases of Malta fever that actually occur may modify the present conception of its clinical course. In the past, he states, only the unusually severe and prolonged cases have been studied. Those which were milder and shorter did not call forth the additional thought and action that might have led to the correct diagnosis. It may become clear, therefore, that many mild and comparatively short illnesses are due to *Brucella melitensis*. Another feature of moment is that undulant fever is probably a disease of the country, villages and small towns. Most cases will therefore be seen by general practitioners. A correlation of the distribution of undulant fever with that of contagious abortion will provide important information on the epidemiology of the disease. In addition, preventive measures will be taken only when its prevalence is known.

V 90
1928

DIET AND DETERIORATION AMONG THE AMERICAN INDIANS

The primitive American Indian has generally been described as a fine physical specimen. In contrast with this are the pictures drawn of his successors of the present generation. The opinion is often ventured that the extinction of the earliest American races will soon be in sight. The conquest by civilized man has brought about a change from the natural outdoor, nomadic life to one of restricted physical exertion and of indoor housing on the reservations. Recent writers [1] have raised the significant question, however, as to how far modifications in their customary dietary may be contributing to the decline of our native races in addition to the environmental changes just mentioned. According to Stene and Roberts [1] there is some diversity of opinion as to the diets of the early Indians, owing probably to the fact that studies were made of different tribes and at different times of the year.

1. Stene, Jessie A., and Roberts, Lydia J.: A Nutrition Study on an Indian Reservation, J. Am. Dietetic A. **3**: 215 (March) 1928.

However, it appears in general that the tribes that ate the Indian food at its best had a fairly adequate diet, at least in summer. This consisted largely of meat which included all parts of the animal—the internal organs, the bone marrow and gristle—with liberal supplies of wild turnips, whole corn and wild berries. There were doubtless shortcomings and deprivations, particularly in the winter season, so that nutritional impairments may have resulted.

Observations of the present-day regimen of a typical reservation group of Sioux Indians living in South Dakota indicate that their diets are poor. They are by preference "essentially carnivorous"; and even today fruits and vegetables form an uncertain and variable part of the food intake. Butter and eggs were not a part of the diet of the primitive Indian, and even at present these foods are not much used. Milk also has a minor place in a dietary that abounds in "grease bread" and coffee when the meat ration becomes scanty. According to Stene, even a casual observer cannot fail to note the great prevalence of decayed teeth, of bow legs, and of sore eyes and blindness among these families. She remarks that, although no definite conclusions can be drawn as to a cause and effect relationship between the diets and the physical determinations, it is obvious that the dietary deficiencies are such as would be expected to produce the types of physical deterioration found. The lack of calcium, which is essential for skeletal development, shows its effects in the prominence of poor teeth and bow legs. The prevalence of sore eyes and blindness—although it may of course be due to trachoma, venereal disease or other cause—might be attributed to xerophthalmia caused by the extreme lack of vitamin A in the diets. In view of the alleged relation of vitamin A to the prevention of tuberculosis and of respiratory infections in general, the fact that 85 per cent of the deaths from known causes were due to these infections strongly suggests that the diet, which is especially low in vitamin A, may be a determining factor in these conditions. It was noted that one third of the child mortality in the Sioux group studied occurred in a few families whose diet was principally bread and coffee.

These are not statistical facts of the sort that permit compelling deductions; yet the impressions of trained observers demand respectful consideration. Stene and Roberts venture the conclusion that both unsatisfactory sanitation and inadequate diets are doubtless responsible for the physical deterioration of the Indians on the reservation studied. Without in any way minimizing the importance of sanitary factors, Stene and Roberts add, it should be emphasized that the deficiencies of the diets are of such type and degree as to make them alone sufficient to account for the physical deterioration. In contrast with many other factors in life, diet is one that is in no small measure subject to alteration and improvement.

THE SKIN AND RACIAL ADAPTATIONS TO CLIMATE

Pigmentation of the human skin, it has been said, is a sign of adaptation to special types of environment. According to Leonard Hill[1] of the English Medical Research Council, the primary function of pigment is to arrest excess of sunlight, which has a lethal effect. This is shown by the fact that the blackest races are to be found in dry, sunny climates with much sun glare from the ground; dwellers in the arctic snows are pigmented; and white people exposed to direct sunlight or snow glare and becoming sunburned become pigmented, and after pigmentation become immune to sunburn. Pigment placed in the deep layers of the epidermis, by absorbing most of the visual rays which penetrate the horny layers, protects the blood and living tissues from the lethal effects of these rays. According to Hill, the pigmented man can therefore have a much thinner horny layer and safely glow with flushed blood vessels, thus losing heat by radiation and convection, without risk of injurious effect from ground glare and sky shine, or from the direct sunlight, as he turns from shade to sun. A thin skin is important in promoting conduction, as the horny layer is an exceedingly bad conductor of heat.

From the foregoing description it might be assumed, without further deliberation, that a marked physiologic advantage attaches to the highly pigmented races. There is, however, another aspect of the problem of heat "mobilization" that deserves consideration in this connection. In the course of human evolution man became adapted to life in climates decidedly cooler than those that harbored his primitive ancestors. A recent writer has remarked that a liberal supply of heat within the body undoubtedly was an advantage in the cool regions of the globe. To insure constant temperature within, a large supply of heat was needed; a surplus of this heat was in a sense a means of insurance, but that surplus must be emitted. The amount of this emission is an important factor in the life of mammals and of mankind, and it needs closer measurement for diverse races and environments. Heat is a by-product of muscular exertion. If a large amount of heat can be emitted without danger, a larger amount of work can be done. Muscular and mental exertion are promoted when a high loss of heat is practicable.

The skin may thus be looked on as an organ which, under certain conditions, needs to protect the body against the injurious effects of external radiation; under other circumstances it must function to facilitate to the maximum the elimination of endogenously produced heat. According to Fleure,[2] the inhabitants of northwestern Europe south of the arctic circle, since the passing away of the ice ages, have lived under

1. Hill, Leonard: The Science of Ventilation and Open Air Treatment, Part II, Special Report Series No. 52, Privy Council, Medical Research Council, London, H. M. Stationery Office, 1920.
2. Fleure, H. J.: The Characters of the Human Skin in Their Relations to Questions of Race and Health, London, Oxford University Press, 1927.

conditions of humidity and mildness, with much cloud. Neither undue cooling nor excessive evaporation occurs to give rise to any grave danger, while there is always abundant opportunity to get rid of surplus heat, and the conditions promote active life and long-continued growth. We are thus able to understand with Fleure the evolution of a fairly delicate skin without much pigment, with a fairly strong skin circulation and sweat glands, although these are developed less than in torrid Africa. According to Fleure, men of color who come to live in Europe for a while are apt to become lighter, though whether diet or reduced insolation or other influences are at work here cannot yet be determined. The persons who have become adapted to regions where the cold is intense show other physiologic peculiarities. They have mostly developed skin density; the blood vessels lie deep, the dry epidermal layers are well developed, pores are few, and fat beneath the skin is a fairly widespread feature.

Such specialization in the structure and pigmentation of the human skin appears to be of importance in the well being of races subjected to migration. Fleure has pointed out that the native American stock is descended from persons with dry, rather hairless skin and brownish (red or yellow with the brown) coloring. This physical endowment has apparently undergone various modifications in different parts of the New World, but it is important to remember that, primarily, it was an endowment for moderating rather than for encouraging heat loss. This, Fleure further believes, has its results in that it makes the equatorial zone trying to the constitution of the American Indian.

More significant is the possible bearing of the skin equipment of Europeans or allied races on their ability to endure tropical climatic conditions. Hill has remarked that climatic adaptation cannot depend merely on pigment, for a very moderate pigmentation, such as the yellow of the Mongol or the sunburn pigmentation of the white person, suffices to prevent the lethal effect of the sun. Moreover, the pigmented Eskimo is not fitted by his pigment to stand a tropical climate. Accordingly there appears to be a correlation between the metabolism and heat-losing mechanism, which adjusts the race to the climate it has been evolved in. Fleure presents the situation as follows: The bodies of Europeans, and especially of the fair Europeans with blood vessels showing through the uncolored skin, are engines adapted to insure emission of a large amount of heat and consequent performance of a large amount of work. If one goes to intertropical lands one suffers in many ways, two of which are here concerned. The fair skin allows some actinic rays to penetrate it and they set up disturbance within, and the sensitiveness of the skin makes these and other intertropical sunlight effects the more dangerous. Besides this, the emission of heat is less easy under the equatorial sunshine, and an organism adjusted to a great heat loss is thus apt to get below par in a very warm climate. Therefore, whatever the effectiveness of the skin character in one's own region, it is apt to bring about nervous debility and is especially harmful to European children beyond the infancy phase, i. e., in active childhood, in torrid climates. This implies that, even with improved sanitation and extirpation of the causes of notorious diseases, the warm lands will still present grave difficulties to would-be European settlers, and especially to the fair Europeans. These are the more serious because European women living under the tropical sun are naturally apt to struggle to maintain their fairness of skin; in other words, to resist adjustment to their adopted environment.

MASTOIDITIS IN INFANTS

Pediatricians have long been familiar with a group of symptoms that are often described as "alimentary intoxication" in infants. Vomiting and diarrhea occur characteristically as a part of the clinical picture; and to these physiologic reactions are to be attributed consequent changes in the composition of the blood, which have not been adequately appreciated until recently. The better understanding is due to modern studies and detailed investigation of the chemical changes in the composition of the body, notably the acid-base equilibrium of the blood plasma, as the result of abnormalities in function. Vomiting, for example, involves not only a loss of water from the organism but also a withdrawal of hydrochloric acid. According to Peters [1] and his associates at Yale University, the effects of vomiting on the electrolytes of the serum are highly variable and probably depend on the nature of the vomitus, the severity and duration of emesis, and the degree of inanition produced. The most frequent result is a reduction of chloride, with or without a diminution of base. The level of bicarbonate is capricious.

Hartmann and Smyth [2] of the Washington University School of Medicine, St. Louis, believe that the changes in the chemical composition of the blood seen in cases of pyloric and intestinal obstruction in infants and children can be explained entirely by loss from the body of gastric and intestinal secretions. Chloride is removed as the result of vomiting. When chloride diminishes in the blood, bicarbonate is retained and compensates at least in part for the deficiency in electrolyte, so that the total salt concentration still remains nearly normal. The St. Louis pediatricians state that marked vomiting without actual organic pyloric or intestinal obstruction may also lead to identical chemical changes.

1. Peters, J. P.; Bulger, H. A.; Eisenman, Anna J., and Lee, C.: Total Acid-Base Equilibrium of Plasma in Health and Disease: V. Miscellaneous Pathologic Conditions, J. Biol. Chem. **67**: 219 (Jan.) 1926.
2. Hartmann, A. F., and Smyth, F. S.: Chemical Changes in the Body Occurring as the Result of Vomiting, Am. J. Dis. Child. **32**: 1 (July) 1926.

V 90
1928

In a more recent study, Hartmann [3] has stressed the similarity presented by the clinical picture of "internal" infections, such as mastoiditis, to that of "alimentary intoxication." The patients in either condition are likely to suffer from diarrhea, vomiting, dehydration, oliguria and "acidosis." Besides loss of hydrochloric acid, base chloride and base bicarbonate by way of vomitus and stool, large amounts of water are lost, which results in dehydration. The occasional decided increase of serum protein presumably results from loss of water from the blood. In turn, this dehydration causes the oliguria and the increase of nonprotein nitrogen and phosphoric acid resulting from incomplete elimination by the kidney. The exact means by which infection so far from the gastro-intestinal tract produces such symptoms is still much in doubt. If "toxins" formed in the intestinal tract can become responsible for the phenomena described there is no cogent reason why comparable substances generated in the infected mastoid should not react similarly. Heretofore, administration of saline solution has been advocated to combat the dehydration and other symptoms. Hartmann urges, however, that the administration of large amounts of saline solution when diarrhea and oliguria persist is contraindicated because of the marked tendency toward retention of base chloride, which tends to keep base bicarbonate reduced, producing extreme, persistent and often fatal acidosis. Water in large quantity must be given orally as such, or intravenously as dextrose solution. Because of the frequent marked loss of base bicarbonate from the body, intravenous administration of sodium bicarbonate is often indicated and may at times save life. These important measures (administration of water, dextrose and sodium bicarbonate) must be carried out, Hartmann says, in conjunction with the local surgical treatment (antrotomy) of the infected focus, and must be continued as long as diarrhea, vomiting, dehydration and acidosis persist.

MALCOLM LASALLE HARRIS, M.D.
PRESIDENT-ELECT OF THE AMERICAN MEDICAL ASSOCIATION

3. Hartmann, A. F.: Chemical Changes Occurring in the Body as the Result of Certain Diseases: I. The Effects of Diarrhea, Vomiting, Dehydration and Oliguria on the Acid-Base Balance of the Plasma of Infants with Mastoiditis, Am. J. Dis. Child. **35**: 557 (April) 1928.

Current Comment

DR. M. L. HARRIS

Malcolm LaSalle Harris of Chicago, newly elected President-Elect of the American Medical Association, achieves this honor after a life of service to medical organization. He was born June 27, 1862, in Rock Island, Illinois, the son of Samuel G. and Frances Green Harris. His early education was received in the public schools of Iowa and his medical education at Rush Medical College, from which he received the degree of doctor of medicine in 1882. He has practiced medicine continuously in Chicago since his graduation, teaching in the County Hospital, Chicago, and as professor of surgery in the Chicago Policlinic. Following reorganization of the American Medical Association in 1901, Dr. Harris became a member of the House of Delegates and has been seated in the House as a delegate, as a member of the Board of Trustees, or as chairman of the Judicial Council since that time. He was a member of the Board of Trustees from 1903 to 1918 and has been a member of the Judicial Council since 1918, serving for the past ten years as its chairman. As a surgeon he has been honored with membership in the International Surgical Association, the American Surgical Association, the Western Surgical Association and the American Association for Clinical Surgery. He has been president of the Chicago Medical Society, the Chicago Surgical Society, the Chicago Pathological Society and the Western Surgical Association, and has held positions of importance in both county and state societies. His contributions to medical literature include not only the translation and editing of Braun's "Local Anesthesia," and contributions to the Oxford, Keen's and Bryant's Systems of Surgery, but also many periodical contributions not only in surgery but also in the field of medical education, and particularly of medical economics. His election to the high office of President of the American Medical Association is a recognition of distinguished service to science and to organized medicine.

THE MINNEAPOLIS SESSION

The Minneapolis session passes into history with several records to its credit: (1) The scientific program and the scientific exhibit achieved pinnacles never before reached in their presentation of the progress of a year in scientific medicine; (2) the House of Delegates held a harmonious session and took actions of the greatest significance to the future of medical practice in this country; (3) the auditorium in which the exhibits were held provided opportunity for display not available elsewhere in the country; (4) the weather was practically perfect. During the next few months the pages of THE JOURNAL will contain most of the papers read at the session. However, mention should be made at this time of the well organized diagnostic clinics and special lectures which occupied Monday and Tuesday during the meeting. These were attended by great numbers of physicians who were unanimous in expressing appreciation of the qualities of this material. The scientific exhibit was at least one-third larger than on any previous occasion, and the special exhibits devoted to fractures, to laboratory methods, to dermatology and to infant feeding were unusual in scope and in content. The technical exhibits occupied not only the lower floor of the auditorium but also most of the available space in the hallways on the main floor. The House of Delegates concerned itself particularly with the multiplicity of medical meetings now appealing for the time of the practicing physician and also with increasing the attention given by the Council on Medical Education and Hospitals to the problems of classification and improvement of hospital service. The attendance at the Minneapolis session was almost 5,000, a figure which indicates that these meetings have not lost in any way their appeal to the American medical profession.

IODINE COMPOUNDS AND THE THYROID

In the treatment of disorders in which the thyroid glands may be involved, medication with iodine in one form or another often plays a conspicuous part. The medicinal preparations thus used are varied and are supported by a diversity of claims. It has long been known that the thyroid can remove iodine with extreme rapidity from the circulation. This raises the question as to whether there is a selective choice in such absorption when iodine compounds of different types are made available. Van Dyke [1] has made an attempt, at the University of Chicago, to determine quantitatively the rates at which the hyperplastic thyroid gland of the dog selectively absorbs various iodine compounds. Thyroxin iodine is slowly taken up, while free iodine is absorbed relatively more rapidly. Iodate iodine is bound quickly by such glands but apparently not so quickly as iodide iodine, which is selectively absorbed by the hyperplastic gland more rapidly than any of the iodine compounds studied. Such observations have no direct bearing, of course, on the use of thyroxin and similar products in altering the metabolic rate, though they may help to explain the long latent period attending the use of the compounds. The experiments of Van Dyke suggest, however, that in practice iodide iodine is of chief pharmacologic significance in altering thyroid secretion. There appears to be little experimental basis for the use of free iodine, even if loosely linked with iodides, as in compound solution of iodine, in the treatment of patients with various types of goiter. Incidentally, it is of interest to note that the effect of current methods of goiter prophylaxis is exhibiting itself among the domestic animals as well as in man. A few years ago it was comparatively easy to find goitrous dogs throughout the Great Lakes region. According to Van Dyke there is much greater difficulty in doing so today in Chicago, probably because of the present extensive use of iodized salt, which both dog and man ingest.

1. Van Dyke, H. B.: Iodine Compounds, Arch. Int. Med. **41**: 615 (May) 1928.

THE SYNTHESIS OF SUCROSE

When the German chemist Friedrich Wöhler, a century ago, accomplished the synthesis of urea in the laboratory, he finally dispelled the long nourished belief that the components of living organisms owe their genesis to some "vitalistic" mechanism—some procedure beyond man's ingenuity in imitation. Other constituents of the body presently were manufactured de novo through the intervention of the scientific resourcefulness of human genius. Part of the mystery of nature's ways had been fathomed. The so-called proximate principles, the proteins, carbohydrates and fats, have seemed, however, to be particularly resistant to reproduction by the chemist. The problem of the fats, whose composition was indicated by the French chemist Chevreul early in the nineteenth century, was first to be solved. The name of Emil Fischer is indissolubly associated with the preparation of a number of simple sugars, many of which have not been discovered in nature. The disaccharides and polysaccharides have, however, continued to harass the organic chemists, who have long sought the prize of synthetic production of these carbohydrates. Lactose, or milk sugar, discovered in 1615 by Fabriccio Bartoletti in Bologna, has apparently been synthesized by Pictet and Vogel; and at last sucrose, industrially the most important of the sugars and a substance widely distributed in the vegetable kingdom, where it functions almost entirely as reserve material, is reported [1] to have been produced by Prof. Amé Pictet of the University of Geneva. A distinguished chemist has described this great achievement as a milestone in organic and biologic chemistry. Sugar constitutes nearly one fifth of the sources of energy in the American diet of today. It would be rash to say that the synthetic production of the day's food is near at hand. The proteins have remained as a stumbling block; yet the amino-acids, which doubtless represent them in nutrition, are being created by the chemist's talent. If we look back over the closing century and review the progress that Wöhler initiated, what may we not expect of the decades of the immediate future?

1. Indust. & Engin. Chem., news edition, May 10, 1928.

V 90
1928

PROCEEDINGS OF THE MINNEAPOLIS SESSION

MINUTES OF THE SEVENTY-NINTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT MINNEAPOLIS, JUNE 11-15, 1928

HOUSE OF DELEGATES

First Meeting—Monday Morning, June 11

(Continued from page 1956)

NEW BUSINESS

Resolution on American Bar Association

Dr. William Allen Pusey, Illinois, presented the following resolution, which was referred to the Reference Committee on Miscellaneous Business:

The American Medical Association in assembly at Minneapolis on June 11, 1928, notes with satisfaction that the American Bar Association will celebrate this year at its meeting in Seattle on July 25 the fiftieth anniversary of its establishment.

The American Medical Association sends its greetings and felicitations and expresses its trust that the future of the American Bar Association will be as distinguished and successful as its past has been.

Resolution on Death of Dr. Noguchi

Dr. John Edward Lane, Connecticut, presented the following resolution:

For more than twenty-five years, Hideyo Noguchi has lived and worked among us, industriously pursuing those brilliant and beneficent researches which have made his name famous. His acute mind, his untiring energy, his modest and unassuming character made him the model of a scientific investigator.

Yesterday in Africa he gave his life to the cause of humanity as simply, as directly, as courageously, as on the field of battle.

To us among whom he worked he brought high honor. In him we felt great pride. For him those so fortunate as to know him felt sincere affection.

As the representatives of the medical profession of America, we, the American Medical Association, desire to express to our colleagues of Japan our profound sympathy in the loss of a great and noble figure.

Furthermore, we would beg to assure them of our deep sense of the privilege which is ours of sharing something of the pride in his great achievement and his heroic career, which is the heritage of his Mother Country.

On motion, duly seconded, it was unanimously agreed that this resolution be spread upon the minutes of the House and that the Secretary be instructed to convey its sentiments to the physicians of Japan.

Resolution on Appointment of Alternates

Dr. Southgate Leigh, Virginia, presented the following resolution, which was referred to the Reference Committee on Amendments to the Constitution and By-Laws:

WHEREAS, Under the present arrangement it is difficult for each state to have a full delegation in the House of Delegates of the American Medical Association, therefore be it

Resolved, That the Reference Committee on Amendments to the Constitution and By-Laws be instructed to consider the advisability of a change making the plan for appointing alternates more flexible, and, if approved by them, to bring in the necessary amendment to the Constitution.

Resolution on Presidents of State Societies

Dr. Southgate Leigh, Virginia, presented the following resolution, which was referred to the Reference Committee on Rules and Order of Business:

WHEREAS, It is eminently desirable that the various state societies be brought into closer contact with the American Medical Association, therefore be it

Resolved, That consideration be given a plan to make the president of each such society ex officio a member of the House of Delegates of the American Medical Association.

Resolution on Date of Annual Session

Dr. Southgate Leigh, Virginia, presented the following resolution, which was referred to the Board of Trustees:

WHEREAS, It is to the best interests of the American Medical Association to keep in close touch with the medical colleges of the country, and to that end to have a full attendance of the teachers of the medical colleges at its annual meetings, therefore be it

Resolved, That the Trustees be requested as far as practicable to arrange the dates of the annual meetings so as not to conflict with commencement dates of the medical schools.

Resolution on Medical Education

Dr. Southgate Leigh, Virginia, presented the following resolution, which was referred to the Reference Committee on Medical Education:

WHEREAS, It would appear most desirable that medical students be permitted to graduate and enter practice at an earlier age than at present, and

WHEREAS, Duke University has apparently decided to make its medical course cover three years of four quarters each, and to change the usual premedical requirements, and

WHEREAS, It would seem that the usual medical course includes more than necessary of the specialties and pays less attention to the fundamentals, and

WHEREAS, It would seem that the course is being made so difficult that the average student is unable to graduate, therefore be it

Resolved, That the Reference Committee on Medical Education be requested to give the subject of medical education full consideration, including preliminary education, premedical course, medical course and hospital training, and report its recommendations to this House.

Resolution on Recognition of Lazear and Carroll

Dr. R. W. Fouts, Nebraska, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, The roll of the martyrs of medicine has recently had added to it the names of three distinguished investigators of yellow fever, and

WHEREAS, The world has as yet failed to grant full recognition to the fundamental contribution of Drs. Jesse W. Lazear and Dr. James Carroll, who sacrificed health and even life itself in aiding to determine the means of transmission of this deadly disease, therefore be it

Resolved, By the House of Delegates of the American Medical Association, that the board of trustees of the Association take leadership in the support of any suitable legislation that may be introduced to recognize properly their services.

Resolution on Free Medical Care of Students

Dr. Charles J. Whalen, Illinois, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, It has come to our attention that students in universities and colleges are being given free medical care without regard to the ability of the individual to pay for the same, therefore be it

Resolved, That the Judicial Council be requested to investigate the matter as to the extent to which this practice prevails.

Resolution on Death of Drs. Adrian Stokes and William Young

Dr. S. W. Welch, Alabama: We have just passed a resolution of respect and sympathy on Dr. Noguchi's death. There were two Englishmen who died at the same time with yellow fever, and I think this organization ought to go on record and send our respects and condolence to the British Empire as well as to Japan. The names of those two men were Dr. Adrian Stokes and Dr. William Young. If I would be in order, Mr. Chairman, may I move to recall that resolution, for which I voted, in regard to Dr. Noguchi, and add these two names to it?

The Speaker: If there are no objections, these names will be added, and it is so ordered.

Communication from National Grange

The Secretary presented the following communication from the National Grange, which was referred to the Reference Committee on Hygiene and Public Health:

Cleveland, Ohio, Nov. 24, 1927.

House of Delegates, American Medical Association:

We, the officers and delegates attending the sixty-first annual session of the National Grange, assembled at Cleveland, Ohio, and representing 800,000 members, who are engaged in agricultural pursuits, wish respectfully to bring to the attention of your association the growing scarcity

of country doctors. It is our hope in so doing that your association may lend the weight of its influence to such readjustments and reforms in medical education as will serve to replenish the dwindling supply of country doctors and avert a general breakdown in rural medical service, which, unless present tendencies are arrested and corrected, appears to be inevitable.

According to the findings of a survey made for the General Education Board by Lewis Mayers and Leonard V. Harrison, published in 1924, there were approximately 33,000 physicians in places of 1,000 inhabitants or less in the United States in 1906. In 1924, according to this report, this number had been reduced to 27,000, showing an actual loss of 6,000 rural physicians in eighteen years. More recent investigation shows that almost one third of the towns of 1,000 or less, throughout the United States, which had physicians in 1914 had none in 1925. The average age of rural doctors throughout the country in 1925 was 52 years. Since the average age at death of American physicians is 62 years, it will be seen at a glance that the present generation of country doctors will have practically disappeared in another ten years.

With this situation staring us in the face, it is ominous, to say the least, that only a very small percentage of the medical doctors graduated during the past ten years have taken up the practice of their profession in the rural districts. Careful inquiry reveals the fact that there are literally scores of rural counties in the United States where not a single doctor receiving his degree during the past ten years has settled.

In the meantime, we hear more and more of the increasing hosts in the rural sections who are "medically helpless," while the cost of medical service, where it is to be had, mounts higher and higher.

Notwithstanding this situation, we find that the Commission on Medical Education, which is now studying the subject, reports that with the medical school capacity we have in the country at the present time, and their graduates averaging 27 years of age, the number of physicians in practice is actually decreasing and that their number will not regain its present size of 130,000 until 1965. In the meantime, the population of the country, the commission estimates, will have increased from 115 millions to 164 millions.

We glean from a published report of one of the committees at the last annual convention of the American Medical Association, held at Washington, that "the medical profession does not attract so many qualified young men and women as formerly." The report also notes that a dangerous concentration of doctors in cities is taking place, leaving the rural communities without adequate medical service.

The reason for this situation is not far to seek, and is hinted at by the committee in question. Under the minimum requirements which have been established, the prospective doctor must spend seven years after leaving high school in securing his education. Aside from the long period of pupilage, he must assume excessive financial responsibilities before he can begin the practice of his profession. This automatically operates to close the doors of the medical profession to thousands of those who possess all the natural qualifications to make them successful physicians under a more reasonable system of preparation.

It is only in very rare instances that the son or daughter of a farmer could hope to enter the medical profession under prevailing conditions. This holds true of people of average means in other walks of life.

We are in hearty accord with a distinguished former President of the American Medical Association, Dr. William Allen Pusey, when he says: "If the poor boy, who is used to the simple life and to effort rewarded only by the simpler luxuries, cannot enter medicine, who is going to do the ordinary work of medicine in the city or in the country? The man who can live without productive labor until he is 25 or 30 years old, who can spend $8,000 or $10,000 on his higher education, is not looking for an ordinary practice among ordinary people in the cities, or for any practice in the country."

If the supply of country doctors is to be replenished, these doctors must come from among the young men and women of the country districts, as was the case in former times. The type of graduates now being produced by our medical schools will not settle and practice in the country districts. This is conclusively proved by the experience of recent years.

The family doctor is rapidly becoming extinct. He is being supplanted by the specialist to a degree that is not warranted under practical conditions.

It is poor comfort to the expectant mother in the farm home to know that in the distant city there is an elaborately equipped maternity hospital, with specialists in obstetrics in attendance, when our system of medical education to an increasing extent compels her to rely on a midwife or the friendly offices of a neighbor in facing her ordeal. It is not necessary to elaborate on this phase of the situation. Parallel illustrations will readily suggest themselves.

The need is for more general practitioners, whose outlay in time and money in securing their medical education will be such that their services will be within the reach of the rank and file of the people, who constitute the overwhelming majority of our population, whether urban or rural.

We are not advocating one class of doctors for the country and another for the town. The country doctor, who is compelled to rely largely on his own resources, without many of the facilities afforded in city hospitals, and without the advice of specialists, should be the best product of our medical schools.

Neither are we advocating any lowering of medical standards. What is required is more practical instruction, which may be acquired in less time and with the expenditure of less money than under prevailing conditions. We find that it is the opinion of many physicians of the highest standing that present medical education is not giving the most resourceful practitioners for ordinary service; it is producing practitioners who are dependent on hospitals and laboratories, while these facilities according to authoritative medical opinions are necessary in hardly more than 10 per cent of illnesses and accidents. It is in the care of this 90 per cent of illnesses for which independent, resourceful physicians are necessary that the rural communities are mostly in need. For the 10 per cent of emergencies requiring specialists and hospital service, rural people can, perhaps, in most cases by an effort utilize urban facilities. However, the cost of these distant facilities makes them impracticable by rural people except in cases of emergency. Because of their cost they are not practical for 90 per cent of ordinary illnesses and accidents which, in the aggregate, produce the greatest sum of suffering, and whose early neglect leads to the serious emergencies. This 90 per cent of illnesses cannot be handled through distant doctors and urban hospitals. If the people are to have adequate medical service, they must have physicians in their own communities.

The number of medical schools in the United States has been reduced from 160 to 69. Many of the smaller medical schools, which served a useful purpose, have been forced out of existence by highly endowed institutions, nearly all of which receive large appropriations of public funds. The direction and control of these schools has largely passed out of the hands of the people or their representatives.

The leaders of the medical profession and those who are charged with shaping the policies of these institutions are the guardians of a sacred trust. It is for them to recognize the difficulties of the situation into which we are so rapidly drifting and to propose a practical solution.

Failing in this, it is for the people to determine whether it would not be good policy, as necessity demands, for the states to build and maintain medical schools solely under public control and responsive to the needs of humanity.

We note that there are many distinguished physicians in the United States who believe that a proper medical education can be given on the basis of a high school education and four years of subsequent training, provided this includes at least one year of practical experience in a hospital; that unanswerable evidence to confirm this opinion is furnished by the fact that many of the physicians of the highest standing in the country at the present time and an equally great number of your most useful servants of society, but of less distinction, scattered throughout the country, have had a training not exceeding this. If such a training will produce competent physicians, we think that the argument is unanswerable that such physicians will be less expensive and their services more widely available to the people.

We are, however, not undertaking to offer our opinion on the details of medical education; our purpose is to emphasize to you our needs as we see them. We wish to follow wise medical leadership, to escape if possible the mistakes of unwise legislation which might open the doors to all sorts of incompetents. But we feel that we should call the attention of the profession to the fact that we are compelled by force of circumstances to be concerned with the usefulness of the medical graduates that are turned out and their apparent failure under present conditions to meet the needs of rural communities.

It is pertinent to observe that it has taken about twenty years to bring about the present situation, and it will require some time to extricate ourselves from it. No time should be lost in prescribing remedies intended to effect a cure.

Various remedies have been suggested to relieve the situation with which we are confronted. But in the main these proposals call for mere makeshifts. They constitute an effort to deal with the effect without removing the cause of the shortage of country doctors. In our opinion, the only adequate remedy will be found in the adoption of a more rational system of medical education.

Again expressing the hope that your organization, to which the people have been accustomed to look for leadership in medical affairs, may recognize the urgent need of the reforms suggested and strive for their realization, we are

Respectfully yours,

THE NATIONAL GRANGE,
L. J. TABER, Master.

Attest:
C. M. FREEMAN, Secretary.

V 90
1928

Communication from Illinois State Medical Society

The Secretary presented a communication from the Illinois State Medical Society recording the action of that society in approving of a proposed amendment to the By-Laws of the Association having to do with the manner of selecting members of the Council on Medical Education and Hospitals and fixing their terms. It was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Communication from New Hampshire Medical Society

The Secretary presented the following communication from the secretary of the New Hampshire Medical Society, which was referred to the Board of Trustees:

The House of Delegates of the New Hampshire Medical Society, at its meeting, May 15-16, instructed its delegate to the A. M. A. House of Delegates "to express its interest in the establishment of some provision for indigent and incapacitated physicians."

D. E. SULLIVAN, M.D., Secretary.

Resolutions on X-Ray Laboratories

The Secretary presented the following resolution from the Section on Radiology of the Illinois Medical Society, which was referred to the Reference Committee on Medical Education:

Resolved, By the Section on Radiology of the Illinois Medical Society, that the House of Delegates of the American Medical Association be and is hereby requested to direct the Council on Medical Education and Hospitals to extend its activities in regard to approval of clinical laboratories, so as to include x-ray laboratories and x-ray departments, inasmuch as

this branch of medical activity occupies the same relative position in medical practice and procedure as does the clinical laboratory.

The Secretary presented the following resolution from the Chicago Roentgen Society, which was referred to the Reference Committee on Medical Education:

Resolved, That the House of Delegates of the American Medical Association be requested to direct the Council on Medical Education and Hospitals to extend its activities in regard to clinical laboratories to include x-ray laboratories, inasmuch as this branch of medical activity occupies the same relative position in medical procedure and practice as does the clinical laboratory, there being equal reasons for inclusion of both in the study, evaluation and approval or disapproval of x-ray laboratories as the clinical laboratories.

Foreign Guests

The Secretary: I have the honor to announce to the House of Delegates that, in addition to the presence of our distinguished guest the official representative of the British Medical Association, we are also honored with an official delegate from the Canadian Medical Association in the person of Dr. J. Harvey Smith, and a delegate from the Victorian branch of the British Medical Association in Australia in the person of Dr. R. G. McPhee, and an official delegate from the Medical Society of Costa Rica in the person of Dr. A. Pena Chavarria. These gentlemen, Mr. Speaker, as far as I am aware, are not present but I hope opportunity will be given to introduce them to the House at some future session.

Dr. H. M. Brown, Wisconsin, suggested that Dr. Karl Unna of Hamburg be elected to Honorary Fellowship in the American Medical Association. His suggestion was referred to the chairman of the Council on Scientific Assembly.

Dr. A. T. McCormack, Kentucky, moved that the matter of any further action in regard to the Parker Bill be referred to the Reference Committee on Hygiene and Public Health for consideration, and it was so referred.

The House of Delegates recessed at 12:30 p. m. to convene Tuesday morning, June 12, at 9:30.

Second Meeting—Tuesday Morning, June 12

The House of Delegates was called to order at 9:30 a. m. by the Speaker, Dr. Fred C. Warnshuis.

The roll of the House was constituted from the report of the Committee on Credentials and the signed slips of the individual delegates.

The reading of the minutes, on motion, was omitted.

Supplementary Report of the Committee on Credentials

Dr. J. D. Brook, Michigan, reported that 137 delegates had filed satisfactory credentials.

The report was received and accepted.

Presentation of Dr. J. Harvey Smith

The Secretary introduced Dr. J. Harvey Smith, official delegate of the Canadian Medical Association, who said:

Mr. Chairman and Gentlemen:

It is a very great privilege indeed to represent my association on this occasion. I know that you are extremely busy men, and you don't want to listen to long speeches. All I am going to do is to convey to you on behalf of our association our warmest greetings. Thank you, gentlemen. (Applause.)

Appointment of Reference Committees

In the absence of Dr. William Jepson of Iowa, the Speaker appointed Dr. Thomas F. Thornton, Iowa, to serve on the Reference Committee on Sections and Section Work.

Report of Reference Committee on Sections and Section Work

Dr. Isaac A. Abt, Section on Diseases of Children, read the report of the Reference Committee on Sections and Section Work:

The Reference Committee on Sections and Section Work commends the report of the Council on Scientific Assembly. We are in hearty accord with their arrangement of the scientific program of the sections.

We approve the Council's recommendation of the scientific lecture program, which is an innovation. This feature of the scientific program will undoubtedly be appreciated by the practitioners who are early in attendance at annual meetings. This new plan will enable them to acquire a rapid survey of the latest practical methods in diagnosis and treatment.

We also approve the recommendation of the Council that all matters arising in the House of Delegates or in the Scientific Sections of a scientific nature which require further investigation be referred to the Council on Scientific Assembly before such matters are entertained by the House of Delegates.

On motion of Dr. Abt, seconded by Dr. Arthur J. Bedell, New York, the report was adopted.

Report of Reference Committee on Medical Education

Dr. William Allen Pusey, Illinois, read the report of the Reference Committee on Medical Education:

The Council in its Addenda presents its reports (summaries, classifications and other data) on conditions in medical education, hospital service and state board statistics which show its usual energy and thoughtfulness.

The Council's report begins with a statement which indicates a rather important change in the burden of its activities from medical education to hospitals. It says:

Although the work of the Council in connection with medical schools is still incomplete, the Council is planning to devote its chief attention for the next several years to a first hand survey of all hospitals in the United States.

The report itself indicates this transfer of its chief activities, for most of it has to do with hospital and allied subjects. After an introductory statement that "the physical reorganization of undergraduate medical schools has been about completed, but much remains to be done in the revision of the curriculum and in the methods of teaching," it takes up briefly the following topics: (1) admission to medical schools; (2) the percentage of medical students coming from rural communities; (3) the supply of physicians in rural communities. The substance of its comments on these topics is as follows:

ADMISSION TO MEDICAL SCHOOLS

While the difficulties of admission to medical schools are "actual enough" they have been exaggerated and are improving. Of the 20,093 applications in 1927, investigation seems to show that there were actually only 8,500 applicants. Of the 8,500 applicants for admission in 1927, 6,420 were accepted. Of the more than 2,000 who were not accepted, most are believed not to have been properly prepared.

PROPORTION OF RURAL MEDICAL STUDENTS

The report states that it finds that 15 per cent of students enrolled during 1927-1928 came from localities of less than 1,000 population.

The Council states that it is also investigating the distribution of new graduates.

MEDICAL SERVICE IN RURAL COMMUNITIES

In its opinion the difficulties of rural communities in regard to medical service are not as great as they have been painted, and it gives the results of its studies, but not the details of them, showing that these difficulties are not pressing.

The committee is glad to know that in the Council's opinion the difficulties in obtaining admission to medical schools are diminishing and that conditions in rural medical service are improving, or are not as bad as they are supposed by many to be.

In view of the unrest with regard to rural medical service, with regard to the expensiveness of medical service in general and of the many strong criticisms directed at medical education from all quarters, the committee feels that many of these problems cannot be postponed or their consideration interfered with by any other activities, however important they may seem to be. We appreciate that all of these problems have had the serious consideration of the Council in the past; we feel that their consideration should be actively continued. We are informed that it will be.

HOSPITALS AND LABORATORIES

The report is chiefly concerned with hospitals and laboratories. It takes up the provisional essentials of registered hospitals, hospitals approved for interns, hospitals approved for residence in specialties, the classification which the Council made of hospitals, the inspection of hospitals, and special advantages of the American Medical Association in appraising hospitals, clinical and x-ray laboratories and medical cults.

It reports that in the Council's Hospital Register there are now 6,807 hospitals. There are 462 which have been refused registration. Of these 6,800 hospitals, 611 have been approved for interns. The Council is also approving hospitals for residence in specialties and reports that there are now 292 such approved hospitals. In its supervision of clinical laboratories it has approved 162 of the 987 clinical laboratories which it finds in the United States.

It makes the gratifying report that medical cults are diminishing both in number of schools and in students.

We believe that the Council is doing its work of appraisal of hospitals as well as can be done, having in mind the difficulties of the situation. But in taking up the work of appraisal of hospitals and laboratories the functions of the Council are being enormously extended; so much so, that it suggests the importance of bringing up the question of the wisdom of this policy that the Association is embarking on of widely appraising medical institutions and agencies. There is perhaps room for more consideration and discussion of this than has appeared. The appraisal of the hospitals of so extensive and so populous a country as this is a vast undertaking. Before committing ourselves irretrievably to such a policy our position should be a very certain one. And there are very important, widely recognized objections to attempts at widespread appraisal by a national organization. It has certain advantages, that lie especially in the efficiency that comes from detachment and of the power that lies in a great central authority. But in an enormous country like the United States, and under our organization of government, it has very serious fundamental objections. The first and most important of these is that it is assuming functions that belong to the states, in the case of medicine, to the constituted authorities that have charge of medical matters, and to the state and county medical societies. Universal patterns may be set up that are not applicable throughout the country. They turn over to small bureaus important responsibility in matters that concern the profession as a whole and which the profession of the respective states should assume for themselves. They thus tend to enervate the spirit and efficiency of local medical organizations and even of constituted medical authorities. They have, in short, the many objections of substituting national bureaucracies for responsible state organizations. Even in medical schools—a very small field compared with hospitals—our policy of appraisal has resulted in widely recognized difficulties. Carried beyond a certain point, appraisal is paralyzing in its effects. It leads to a rigidity and inflexibility that interfere with initiative and with the necessary independence and constructive originality that are essential to healthy activity and advance. It is now being suggested by leading educators that the medical schools themselves rather than any national organization should be responsible for the appraisal of the hospitals in which these schools place their students and interns.

The same criticism applies to the universal appraisal of laboratories.

The committee is not suggesting that the arguments against the appraisal of hospitals are so strong that the undertaking should be abandoned. It is, however, suggesting that there are serious dangers in the policy and that it should be carried out with caution to escape as far as possible the defects which are inherent in it and should be carried out in cooperation with the constituent state medical associations and state authorities.

The supplementary report made to the House of Delegates by the chairman of the Council indicates that these difficulties of appraisal are recognized and being considered. We commend the emphasis which the chairman of the Council in his supplementary report placed on the importance of caution in avoiding the dangers of appraisal.

The committee strongly endorses the recommendation of the chairman in his supplementary report, urging that the practice of medicine is not the proper function of corporations and that the American Medical Association should use its utmost endeavors to stop this growing abuse.

The committee approves the suggestion of the Council that for convenience the inspection and appraisal of x-ray laboratories can best be done in connection with the inspection of clinical laboratories.

It is impossible within the limits of this meeting to give adequate consideration to the many very important topics of medical education brought up by the resolution presented by Dr. Southgate Leigh, but the committee endorses the substance of his resolution to the following effects:

1. That it would be most desirable that medical students should graduate and enter practice at an earlier age than at present.

2. That the plan of covering the medical course in three years of four quarters each instead of in four years of three quarters, with an interval of long vacation which is illustrated by the plan proposed at Duke University, and any other adequate plan of reducing the length of the medical course is greatly to be desired.

3. That the medical course is overcrowded with details and with detailed consideration of the specialties and would be improved by a less crowded course confined more nearly to the essentials and to the fundamentals, and that efforts to this end should be made.

Dr. Pusey moved that the report be adopted. The motion was seconded by Dr. A. T. McCormack, Kentucky, and carried.

V 90
1928

Report of the Reference Committee on Legislation and Public Relations

Dr. Irvin Abell, Kentucky, read the report of the Reference Committee on Legislation and Public Relations:

Regarding the resolution concerning the practice of giving students of colleges and universities medical care without cost, your committee recommends that this resolution be referred to the Judicial Council.

Dr. Abell moved the adoption of this section of the report. The motion was seconded by Dr. Carl F. Moll, Michigan, and carried.

Concerning the resolution that the Board of Trustees of the Association take leadership in the support of any suitable legislation that may be introduced to recognize properly the services of Dr. Jesse W. Lazear and Dr. James Carroll, your committee appreciates both the desirability of and the justice in perpetuating the memory of those who have made the supreme sacrifice in the interest of scientific medicine and recommends that this resolution be referred to the Board of Trustees for such action as in their discretion may seem fitting.

Dr. Abell moved the adoption of this section of the report. The motion was seconded by Dr. Arthur J. Bedell, New York, and carried.

On the report of the special committee appointed to secure revision of undesirable regulations of the Volstead Act, the committee recommends that the special committee be continued for another year.

Dr. Abell moved the adoption of this section of the report. The motion was seconded by Dr. C. S. Gorsline, Michigan, and carried.

Dr. Abell moved the adoption of the report as a whole. The motion was seconded by Dr. H. B. Everett, Tennessee, and carried.

Report of the Reference Committee on Hygiene and Public Health

Dr. A. D. Dunn, Nebraska, read the report of the Reference Committee on Hygiene and Public Health:

The report of the Special Committee on Medical Relief in Disaster includes a letter to the chairman of the committee on the manner in which the Mississippi River flood disaster was handled by the county medical societies.

The reference committee recommends that:

1. The House of Delegates reaffirm its endorsement of the plans outlined in the special committee's report.

2. Copies be sent to the state secretaries to be placed on file, and that they be notified that copies will also be sent to county secretaries to be kept on file in their respective offices.

3. The county secretaries be provided with fitting copy, which they are requested to have published in public print.

Dr. Dunn moved the adoption of this section of the report. The motion was seconded by Dr. Bert L. Eiker, Iowa, and carried.

A letter was referred to the committee from the National Grange, anent the alleged scarcity of rural physicians.

The following resolution is submitted by your reference committee.

Resolved, That an official reply to the Grange be formulated by the Secretary of the House of Delegates embodying the following thoughts:

1. That the House of Delegates is keenly alive to the problems involved and recognizes that, although there will always be some inadequacy of medical services in sparsely settled communities, improvement of medical services in rural districts is needed.

2. That the problem is being intensively studied by the Commission on Medical Education (already in its fourth year), the Committee on the Cost of Medical Care, the Council on Medical Education and Hospitals, and other bodies.

3. That the problem is fundamentally economic and the solution involves much more than the mere length and costs of medical education.

4. That patience and time are necessary in order to obtain data and evolve methods for solving this problem.

5. That suggestions from the National Grange and information will be welcomed by the House of Delegates and by any of the bodies specially engaged in the study of medical educational and economic problems.

Dr. Dunn moved the adoption of this portion of the report. The motion was seconded by Dr. Albert Soiland, California.

Dr. Victor G. Vecki, California: The rural districts have a simple remedy in their own hands. If each community forms an organization of people of means, and pays a physician to stay there, it could solve the problem. I would embody in that answer the simple means and the plan by which they can get together and pay a physician a salary.

Dr. Arthur J. Bedell, New York: Would it not be better to have the Board of Trustees formulate this answer rather than the Secretary?

The Speaker: That is for the House to determine.

Dr. A. T. McCormack, Kentucky: This is a serious matter. It is difficult for those who live in cities to realize the importunate demand of the rural sections for relief along this line. This is a matter of tremendous importance and it seems to me that we should cooperate with the Grange and the other organizations seriously in consideration of the entire problem.

Dr. William Allen Pusey, Illinois: For some time the Grange has communicated with me on this subject. Their attitude was that the Grange is going to take some action on this matter of rural medical service. The attitude of their secretary was distinctly conservative, tolerant and intelligent. Their attitude was that they wanted the advice and leadership of the American Medical Association. I think the reference committee has made a remarkably sound and good report.

Dr. G. Henry Mundt, Illinois: I have the highest regard for Dr. Vecki, yet I believe that if no man answers his argument we in a passive way put our approval on contract practice and, incidentally, nearly our stamp of approval on state medicine. The suggestion that rural communities get together and hire a practitioner of medicine to come into that community is, I believe, a dangerous thing from those two standpoints.

Dr. F. A. Carmichael, Kansas: It is true that the problem presented by the rural communities is an economic problem. It is equally true, however, that our present system of medical education has a tendency to specialization on the part of the profession. The probable lack of proper advice as to the responsibility of the student body of our various colleges in their attitude of service to the community has something to do with the present condition of lack of physicians in the rural communities. It is difficult to induce the recent graduate to take up a position in a rural community because he is instinctively tinctured with the idea that progress, that achievement, that personal advancement, can only be obtained through the medium of specialization or location in our larger cities. The most feasible, practical step that could be taken to overcome this condition would be to suggest or urge on the various institutions that are teaching medicine throughout the nation that a great effort be made to instruct and to imbue the student with the consciousness of his duty to society and to the community as a whole rather than the selfish aspects of self-aggrandizement and self-advancement.

Dr. J. Newton Hunsberger, Pennsylvania: I think I know the point of view that the Grange has. Since the days of automobiles the farmer has been roaming round as well as the rest of the crowd. I think we want to give the Grange a hearing, I think their point of view is a little bit distorted, and I think we are to blame for that view being distorted in trying to raise the standards of medicine by running in a lot of things that are really not fundamental.

Dr. William G. Ricker, Vermont: The master of our state grange has already had one conference with the secretary of the state society. It is very likely that a representative of the state society will appear at their meeting and a representative of the Grange will appear at our state meeting. They have a multiplicity of local problems. The more thought and consideration is given to this matter in local bodies, the sooner will the solution come. I recommend that the committee incorporate in its report that this subject be taken up and studied by smaller bodies, such as state and county groups.

Dr. Victor G. Vecki, California: In my suggestion there was absolutely nothing of contract practice. I only suggested that the communities should go together and pay a man a salary to stay there, and then the patients have to pay him for his work. At the same time, such a man could act as the health officer for the community.

Dr. William H. Mayer, Pennsylvania: This problem is close to the heart of any one who attempts to fight state medicine. Yet I am not unmindful of the fact that seventy years ago this erudite organization gave one afternoon at Baltimore to the discussion of the danger of the removal of physicians from the rural communities to the cities. I don't think we need be too much alarmed in any decision we make today.

Dr. Seale Harris, Alabama: Seventy-five years ago, when the Medical Department of the University of Alabama was established at Mobile and the state made its appropriation, it was the understanding that one student from each county of the state would be given a scholarship. That resulted most of the time in the graduates from those scholarships going back to the counties from which they came. That scholarship is still given in each county in Alabama now. I suggest that the state universities having medical departments give scholarships to one man in each county with the understanding that he spend his first five years of practice in the county from which he came, and also to the Grange that they get up money to educate a young man in medicine with the understanding that he will go back to his county to continue his practice.

Dr. Dunn moved the adoption of the report as a whole. The motion was seconded by Dr. Albert Soiland, California, and carried.

Report of the Reference Committee on Amendments to the Constitution and By-Laws

Dr. E. C. Thrash, Georgia, read the report of the Committee on Amendments to the Constitution and By-Laws, approving of the subject matter contained in the resolution submitted to amend article 5, section 1, of the Constitution, but recommending a substitute for that amendment to be incorporated as section 12, chapter XI, in the By-Laws instead of the Constitution.

Dr. Thrash moved that the recommendation of the committee be adopted. The motion was seconded by Dr. L. L. Sheddan, Tennessee, and carried.

Dr. Soiland moved that the amendment submitted by the reference committee be adopted as an amendment to the By-Laws. The motion was seconded by Dr. S. W. Welch, Alabama, and carried.

Dr. Thrash read the report of the committee regarding the amendment to article 12 of the Constitution:

Your committee approves the amendment to article 12 of the Constitution offered by Dr. J. T. Litzenberg, Minnesota, but recommends that two thirds be substituted for three fifths (four

sevenths=five ninths). The amendment offered by Dr. Litzenberg is as follows:

The House of Delegates may amend this Constitution at any annual session provided the proposed amendment shall have been introduced at the preceding annual session, and provided three fifths (four sevenths = five ninths) of the voting members of the House of Delegates registered at the session at which action is taken vote in favor of such change or amendment.

The recommendation of your committee is that this section read:

The House of Delegates may amend this Constitution at any annual session provided the proposed amendment shall have been introduced at the preceding annual session, and provided two thirds of the voting members of the House of Delegates registered at the session at which action is taken vote in favor of such change or amendment.

Dr. Thrash moved that this portion of the report be adopted. The motion was seconded by Dr. J. C. Litzenberg, Minnesota, and carried.

Dr. J. C. Litzenberg, Minnesota, moved that the amendment to the Constitution be adopted. The motion was seconded by Dr. A. D. Dunn, Nebraska, and carried.

Dr. Thrash read a substitute for the resolution offered by Dr. J. C. Litzenberg, Minnesota, amending section 5, chapter II, of the By-Laws:

Your committee offers a substitute for the resolution offered by Dr. J. T. Litzenberg, Minnesota, amending section 5, chapter II, of the By-Laws. The amendment offered by Dr. Litzenberg reads as follows:

SEC. 5.—QUORUM.—The majority of the voting members of the House of Delegates shall constitute a quorum.

Your committee's substitute is:

SEC. 5.—QUORUM.—Fifty of the voting members of the House of Delegates shall constitute a quorum.

The motion to adopt the report of the committee was carried.

Dr. J. C. Litzenberg, Minnesota, moved the adoption of the amendment to the By-Laws. The motion was seconded by Dr. Carl F. Moll, Michigan, and carried.

Your committee does not approve the resolution introduced by Dr. Bulson of Indiana amending section 1, chapter IX, of the By-Laws.

Dr. Thrash moved that this part of the committee's report be adopted. The motion was seconded by Dr. Arthur J. Bedell, New York, and carried.

Dr. Thrash: Dr. C. J. Whalen of Illinois reported to the committee that he desired to withdraw the resolution which he had offered amending section 1, chapter VIII of the By-Laws bearing upon the election and tenure of office of the members of the Council on Medical Education and Hospitals. Your committee recommends that he be allowed to withdraw this resolution. I move the adoption of the report. The motion was seconded by Dr. T. E. Carmody, Colorado, and carried.

Dr. Thrash: Your committee recommends the adoption of the resolution introduced by the Council on Scientific Assembly, amending section 11 , chapter XIV, of the By-Laws.

Dr. Thrash moved that this section of the report be adopted. The motion was seconded by Dr. McLain Rogers, Oklahoma, and carried.

Dr. Thrash: Your committee approves the resolution offered by the Council on Scientific Assembly amending chapter XIV of the By-Laws with the amendment that your committee has added.

The amendment, as introduced, reads as follows:

SEC. 16.—SECTION TO PROVIDE FOR THE ESTABLISHMENT, MAINTENANCE, CUSTODIANSHIP AND DISBURSEMENT OF SPECIAL FUNDS.—A section with a majority vote of its members may establish by voluntary contribution funds for specific purposes, the section itself through its officers maintaining the custodianship and disbursement of such funds.

Your committee, however, recommends that after "purposes" the following be added:

Not in conflict with established policies of the American Medical Association.

The amendment, as revised by your committee, would then read as follows:

SEC. 16.—SCIENTIFIC SECTION TO PROVIDE FOR THE ESTABLISHMENT, MAINTENANCE, CUSTODIANSHIP AND DISBURSEMENT OF SPECIAL FUNDS.—A section with a majority vote of its members may establish funds by voluntary contribution for specific purposes not in conflict with established policies of the American Medical Association, the section itself, through its officers, maintaining the custodianship and disbursement of such funds.

Dr. Thrash moved that the report of the committee be adopted. The motion was seconded by Dr. Arthur J. Bedell, New York, and carried.

Dr. A. T. McCormack, Kentucky, moved that the amendment be adopted. The motion was seconded by Dr. Henri P. Linsz, West Virginia.

Dr. Holman Taylor, Texas, moved that the report be amended to read that funds be approved by the Council on Scientific Assembly and the Board of Trustees.

Dr. J. C. Litzenberg, Minnesota, seconded the amendment to the amendment offered by Dr. Taylor.

The motion to adopt the amendment to the amendment was lost.

After extended discussion by Drs. J. E. Lane, Holman Taylor, G. E. Follansbee and McLain Rogers, Dr. Southgate Leigh, Virginia, moved that the whole matter be laid on the table. The motion was seconded by Dr. Litzenberg, Minnesota, and the motion to table the amendment was carried.

Dr. E. C. Thrash, Georgia, moved the adoption of the report with the exception of the amendment which was lost. The motion was seconded by Dr. Arthur J. Bedell, New York, and the motion to adopt the report as a whole with the exception of the last paragraph was carried.

Supplementary Report of the Committee on Credentials

Dr. J. D. Brook, Michigan, presented the names of Drs. Musser of Louisiana and Marvel of New Jersey to be seated in place of the regular delegates and moved that the rule providing the registration of delegates seven days prior to the meeting of the House be waived and that these gentlemen be seated. The motion was seconded by Dr. A. W. Hornbogen, Michigan, and carried.

Report of the Reference Committee on Reports of Officers

Dr. N. B. Van Etten, New York, read the report referring to the Speaker's address:

Your Reference Committee on Reports of Officers commends the clarity of the Speaker's exposition of the functions of his office and endorses his personal opinion that a speaker's address to the House of Delegates should contain no general recommendations for the action of the Association but should be confined solely to recommendations concerning the conduct and administration of the business affairs of the House of Delegates.

In reference to the Speaker's suggestion that all essential facts and conclusions involved in the transactions of the House be fully published for the information of the membership at large, your committee feels that the full publication of the details of the work of the House would be cumbersome and tend to confuse the judgments of the general medical reader, and therefore recommends that this suggestion be not approved.

Your committee approves of the Speaker's suggestion that, instead of generalized blanket endorsements of recommendations, reports should be made of detailed considerations and reviews of the matters submitted to reference committees.

Your committee commends the Speaker's anxiety concerning the potential domination of the general field of medicine by lay organizations with socializing tendencies.

Your committee heartily endorses the sentiment of the speaker in commending the splendid work of the executive officers and secretaries of the Association.

On motions duly seconded and carried, the report was adopted section by section and as a whole.

Dr. Van Etten, New York, read the committee's report on the addresses of the President and the President-Elect and on the memorial in honor of Dr. Noguchi:

Your committee commends the admirable address of the President, his review of the scientific and material development of medicine and his protest against the exploitation of the physician in the abuse of medical charity, heartily approves his declaration "that the time has come (1) when no institution or

V 90
1928

clinic should permit its attending physicians to be imposed on; and (2) when, whatever the social or other advantage to the physician in the clinic, he should not be permitted to contribute to what is a gross injustice to the profession as a whole."

Your committee approves of the principle of the President's recommendation for the investigation and classification of medical charities through the Judicial Council.

Your committee approves of the suggestion of the President-Elect that there exists in the multiplicity of medical societies a danger of diverting and dissipating the fundamental and legitimate strength of organized medicine as typified in the composition of our county, state and national organizations.

Your committee approves of the memorial in honor of Hideyo Noguchi, a Japanese by birth, but a citizen of the world of science whose work was fostered, stimulated and directed by American enthusiasm and finance.

On motions duly seconded and carried, the report was adopted section by section and as a whole.

Report of the Reference Committee on Miscellaneous Business

Dr. William G. Ricker, Vermont, read the report of the Reference Committee on Miscellaneous Business:

The committee received the report of the representative at the Eighth National Medical Congress held at Monterey in December, 1927, Dr. John O. McReynolds, Dallas, Texas, and recommends that it be approved for record in the transactions of the Association.

The Reference Committee on Miscellaneous Business recommends that Dr. William Allen Pusey be instructed to convey the greetings of the American Medical Association to the American Bar Association at its meeting in Seattle, July 25, 1928, at the time of its fiftieth anniversary.

On motions duly seconded and carried, the report was adopted section by section and as a whole.

Report of the Reference Committee on Reports of Board of Trustees and Secretary

Dr. C. E. Mongan, Massachusetts, read the report of the committee:

1. Your reference committee endorses that part of the Secretary's report relative to multiplicity of medical organizations, paralleling, in many instances, the scientific work which would perhaps fall more naturally into the province of the component societies of organized medicine.

Dr. Mongan moved the adoption of this portion of the report. The motion was seconded by Dr. A. T. McCormack, Kentucky, and carried.

2. The committee deprecates especially the compulsory multiple scientific meetings of hospital staff organizations. These have tended to limit to small groups the dissemination of medical information and the discussion of medical problems, interfering thereby with the work of organized medical societies. Organization is necessary in order to obtain unified action of the medical profession in various communities. We feel that the need is greater than ever for general discussion of medical problems and for the dissemination of information associated with the specialties to all physicians. Only in this way can the general practitioner keep abreast of modern medicine.

Dr. Mongan moved the adoption of this part of the report. Dr. A. E. Bulson, Jr., Indiana, seconded the motion.

Dr. D. S. Dougherty, New York: The hospital conferences are compulsory by the College of Surgeons in order to maintain a standing as A-1 hospitals.

Dr. R. W. Fouts, Nebraska: I should like to ask whether or not it is compulsory with the American Medical Association.

The Speaker: The Speaker does not presume to indicate who controls the members of the Association or whether any outside agency has the power to decide or to dominate the nature of county society activities.

Dr. F. B. Lund, Massachusetts: It seems to me, Mr. Speaker, that whether these staff meetings are compulsory or not, they are important for the efficiency of the hospital and for making available to the staff things that are going on. It doesn't seem to me that there is anything compulsory about it. It seems to me it is not a matter within the jurisdiction of this association at all. I don't think we ought to condemn the holding of monthly meetings. I don't think they interfere in any way with the meetings of the medical societies.

Dr. C. E. Mongan, Massachusetts: The Secretary will tell you that on account of these multiple staff organizations the interest in county organizations has virtually been destroyed, and it is because of that that we have made this recommendation. He feels that the county organizations are bound to be destroyed because men have not time to go to multiple staff organization meetings, and at the same time to attend their county medical meetings. More than that, it would be a hardship to ask the man who was on two or three hospital staffs, and was compelled to go twice a month, also to go to a county medical meeting. We are reaching out for the fellow who has not a contact with a hospital and who is a very important individual in the American Medical Association.

Dr. A. E. Bulson, Jr., Indiana: Those of you who belong to hospital staffs I am sure will agree with me that it is compulsory or you lose your job. If you miss a certain number of meetings of the staff organization you are dropped from the roll. A man who belongs to two or three hospitals and attends two or three staff meetings is not in any shape to attend county meetings. Remember that a lot of men who go to staff meetings will cut out the county society, and the little fellow who doesn't belong to the staff loses the influence of those men. There are two sides to this question, and the committee has considered that matter very carefully before wording the resolution.

Dr. D. S. Dougherty, New York: I should like to ask how they differentiate between us who come from metropolitan centers and are members of one, two or three hospitals, and the gentleman who comes from the village. Is he not, I should like to ask, just as good a member of our profession and of the A. M. A. as I am? Why differentiate between us at all? I think it is improper for the committee to bring up a matter of that kind.

Dr. G. Henry Mundt, Illinois: There is not a particle of doubt that in many places the competition between hospital staff conferences and county medical societies is detrimental to the attendance at county medical society meetings and to the welfare of the local medical profession. That is not alone true in the rural communities. We have it in Chicago. There is no doubt that staff meetings of hospitals are definitely competitive with the society meetings in Chicago. I believe that there should be a more definite outline made by the Council on Medical Education and Hospitals as to the activities at these required staff meetings, because, as the committee has stated, it leads to a multiplicity of medical meetings. I think it has a great deal to commend the recommendation of this committee.

Dr. Southgate Leigh, Virginia: As I understand this resolution, it does not interfere with the meetings of the staffs held to conduct the affairs of the hospitals, but simply interferes with scientific staff meetings, and we ought to stop those. I move, Mr. Speaker, that this part of the committee's report be referred back to the committee so that the suggestions made by the previous speakers may be taken into consideration, that is, to make it clear what our stand is on staff meetings.

Dr. Mongan: May I read the next paragraph? It may clear up this matter:

3. Your reference committee suggests that the staff meetings of hospitals be devoted preferably to executive discussions of problems relating to hospital economics and records, and that members of the American Medical Association make special efforts to stimulate interests in and the development of scientific medicine in the regularly organized county medical societies.

Dr. Southgate Leigh, Virginia: I withdraw my motion.

The Speaker: The chairman of the committee will read all of the reference committee's report on this entire question of multiplicity of meetings, and then we can consider the question as a whole.

Dr. Mongan read the entire portion of the committee's report dealing with the subject of hospital staff meetings.

Dr. Southgate Leigh, Virginia: I move the adoption of that portion of the report.

The Speaker: The question now is on the motion which was made previously but which included only a part of the report, but which the Speaker now rules includes all that has been read. Is there any discussion on the adoption of this portion of the report?

Dr. Holman Taylor, Texas: I should like to ask whether the provision that the staff meetings of hospitals be confined to economic problems and records would include the study of pathologic reports and postmortems.

Dr. Mongan: Yes, sir.

Dr. Taylor: Then I am for it.

Dr. Jabez North Jackson: I think fundamentally the whole trouble exists in the fact that the American Medical Association has been somewhat asleep on its job in the past and has permitted other organizations to step in and assume control of the hospitals instead of the American Medical Association itself dictating the policy of the hospitals.

I was impressed with the report yesterday of the chairman of the Council on Medical Education and Hospitals in the fact that the American Medical Association Council is starting out now to make an American Medical Association classification of hospitals. (Applause.) I believe that we should back that movement and insist that the Council make a thorough classification of the hospitals of America and lay down rules and regulations established by the American Medical Association instead of any outstanding other organization. (Applause.)

Dr. Thomas C. Chalmers, New York: Mr. Speaker, I come from a county that, while a part of the city of New York, is also and has been for a number of years a rural county and has a large number of small doctors in it. My experience is not quite the same as that of some of the men who have spoken here. The hospitals in Queens County in their hospital meetings do not have any outsiders come to them and read any scientific papers. They simply make the reports of the attendants, and the other members of the staff discuss the reports and take care of the executive matters. The members of the staff of the hospitals in which we work are the active members and the real workers in the county society. We do reach and do have from fifty to a hundred members at our meetings. Of the fifty to a hundred I should say that 75 per cent are men who are associated in one way or another with large or small hospitals. That gives us the thought: Would it be possible in other sections of the country to educate the men that the real scientific papers of outsiders, of men of prominence in the field, should be given at the county meetings, and get the hospitals back of such plans to give them their support?

The Speaker: The question is on the adoption of this portion of the committee's report which you have heard read. The motion to adopt the committee's report was carried.

Dr. Mongan continued reading:

4. Your committee approves the report concerning the relief for needy physicians, feeling that each constituent state medical association should be left free to decide this question for itself.

Dr. Mongan moved the adoption of this part of the report.

Dr. J. Newton Hunsberger, Pennsylvania, seconded the motion.

Dr. D. E. Sullivan, New Hampshire: I don't know of any humanitarian issue that has been taken notice of by this Association. Last year we were told as the result of a survey that there was no such animal as an indigent or incapacitated physician in this country, with few exceptions. I cannot believe it. In our own state of New Hampshire, which stands second to none in intelligence and in the capacity of its physicians to take care of their own affairs and provide for their temporal wants, I know that there are instances and I know that those instances were not even reported by the county secretaries in this so-called survey. If that condition exists in one little state, multiply that by forty-eight, many times multiplied in population and pro rata of physicians, and you will find there must be in this country a condition that we should take cognizance of. I should like to see that report amended, certifying to the fact that we do urge each and every state to make note of the actual condition of things. In our own county two physicians had their dues remitted because they were not able to pay them.

Dr. Mongan: I feel that the committee is ready to accept any amendment that Dr. Sullivan may offer making this paragraph stronger.

The Secretary: The committee appointed by this House more than a year ago to investigate this matter had for its chairman Dr. George H. Simmons. Dr. Sullivan was himself a member. Dr. Simmons taxed his strength unduly in making what I suppose was as careful and as conscientious an examination into this subject as could possibly have been made. He had in his heart the same feeling of tenderness and sympathy for the deserving dependent or indigent or incapacitated physician that seems to be present in the heart of Dr. Sullivan and that I know is present in the hearts of all of us. He got information through official channels, the secretaries and officers of the state medical associations, the secretaries and other officers of many county medical societies. His report was submitted and I as Secretary was instructed to follow up that investigation and to make additional investigation to ascertain whether any change had come about in the situation. I did that, using, of course, the same avenues of information that had been used by the committee, and got precisely the same result, except that in several instances I learned that some of those physicians who had been reported as indigent before had been discovered to be the possessors of stocks and bonds or were the sons of semimillionaires, and that some others who had been reported in good faith as being deserving had been discovered to be indigent by reason of indiscretions and follies and sins that could be laid only to them.

I did not succeed in ascertaining that there was any indigent physician in the United States who had not been reported in one way or another who would at all admit his indigence except in one or possibly two instances. I found that some of the state associations, notably the oldest of the associations, have for many years established benevolence funds or have made some other provision for caring for reputable, deserving physicians who have come to want. There are some of our strongest medical societies that have also established such funds and in some instances at least have evidently been admirably administering them.

There are many complications that come up in this matter in considering the advisability of the operation of a home for indigent physicians by the American Medical Association. One has to do with the question as to whether or not one home in any particular part of the United States would be a desirable institution to establish because of the great distances that would have to be considered and because of the expense incurred in taking prospective inmates to the home. Time and again those from whom we secured information said: "We would greatly prefer, if money is to be given for this matter, that we give it directly to the individual physicians who need it and let them stay at home where they know and are known and not disrupt the whole interests of their lives."

That seemed to be one of the greatest objections offered to the centralization of indigent physicians in an institution.

Another question raised was as to how the assignments to a home could be equably made. There are some states with small membership in their state associations; there are others with very large membership. For obvious reasons you can see why that question was raised. I don't think it is insurmountable, but it is one that has to be considered.

There seemed to be a feeling on the part of state associations that they preferred to maintain their independence in this matter and preferred to provide for their own.

Dr. J. Richard Kevin, New York: This is an important and vital question. Men like Robert T. Morris, who has spent seven years of the best of his life in determining the need of a home for physicians, tell us that the results of their survey are diametrically opposed to those of a similar questionnaire sent out by the Simmons committee. This question ought to be taken up more thoroughly and honestly, and the purpose of a resolution I have to offer is to ask that that committee be continued, and that that committee take the report of the Hallock questionnaire and the Simmons questionnaire and develop it and find from each county society in the United States what should be done.

V 90
1928

Dr. R. W. Fouts, Nebraska: The question is how to deal with indigence, whether it is expedient to maintain and operate a home. Being fairly familiar with conditions in our state and having talked with our state secretary and many of the county secretaries relative to this very question, I know of only one really deserving physician, and he is being cared for. If physicians have their choice in the matter they do not want to go to a home and would not go to a home; they prefer to be at home with their friends and relatives.

Dr. D. S. Dougherty, New York: We have, in New York state and county, physicians who are indigent, not from any reason of disease or carelessness or dissipation or anything of that kind, but I believe the great majority of those men, as the doctor said, are men who would not care to go to a home. It seems to me personally that the question of taking care of them should be left to the state and county societies as to how they should be taken care of. We in New York County are raising a fund and have considerable money pledged for this purpose. Our state society has not taken it up. The largest Jewish medical organization in the country, the Eastern Medical Society of New York, has a fund of this character, and I bow my head somewhat in shame when I say that we in our county have sent some of our Gentile members to this Jewish organization to get charity from them, and they have spent money out of their own pockets. I do not see why the county societies and the state societies cannot do something of the same kind. We owe it to our members.

In view of what Dr. Kevin has said about his resolution, I would move that this be referred back to the committee until Dr. Kevin's resolution can be taken care of.

The motion was seconded and carried.

Dr. Mongan read the remainder of the report:

5. It is very gratifying to note the continued increase in membership and Fellowship enrolment.

6. In reviewing this entire report, we realize the tremendous amount of work the Secretary has accomplished and desire to express our appreciation.

On motion, duly seconded, the report, with the exception of the portion that was recommitted, was adopted.

Dr. Arthur W. Booth, New York, read the portion of the report of the committee dealing with the report of the Board of Trustees:

Your committee has read with great interest and care the comprehensive report of the Board of Trustees. It is well worth the attention and perusal of every member of the American Medical Association. This brief report can only feebly express our appreciation of the tremendous amount of work which the Board of Trustees has accomplished during the past year.

THE JOURNAL

The high standards of THE JOURNAL have been unswervingly maintained. There has been a gratifying increase of subscribers, and the influence of THE JOURNAL appears to have grown, as evidenced by the numerous quotations from its pages in scientific and lay publications.

Your committee endorses the field work of the Editor, the Secretary, the Trustees and other officers of this Association, and recommends its extension.

Your committee calls attention to the growth of the special journals and congratulates headquarters and the board on the success of *Hygeia*, which is now on a paying basis. Support by the members of the organization is especially urged.

Your committee recommends to the members their support through subscriptions to the *Quarterly Cumulative Index Medicus* and particularly calls attention to its facilities. The *Quarterly Cumulative Index Medicus*, together with the library, furnishes to the members a voluminous service by way of references and library packages at a minimum cost. The availability of this service can be comprehended when we recall to your attention the fact that during 1927 more than 2,700 reference questions and bibliographies were supplied on request to physicians. The library service is endorsed as of direct aid to practitioners, enabling them wherever located to keep abreast of modern medicine by reference to modern medical literature. It is interesting to know that the American Medical Directory has been published without cost to the Association and represents an invaluable and useful contribution to medical records.

THE COOPERATIVE MEDICAL ADVERTISING BUREAU

The Cooperative Medical Advertising Bureau is endorsed as enabling the state medical journals through its assistance to maintain a high standard of medical advertising. It is to be hoped that the few state journals which do not cooperate, and which have different advertising standards, will make every effort to cooperate with this bureau and to eliminate the advertising of drug products which have not the approval of the Council on Pharmacy and Chemistry of the American Medical Association.

BUREAU OF HEALTH AND PUBLIC INSTRUCTION

Health education of the public is recognized as a most important function of modern medicine and we urge the continuance of the work of the Bureau of Health and Public Instruction to meet this need. Your committee recognizes as fundamental the principle that health demonstrations should not be conducted in any community when such demonstrations tend to destroy the confidence of the community in its own medical men.

The medical profession has not recognized, as it should, its responsibility to the public in relation to the promotion of periodic physical examinations. This movement merits the interest of every physician and it is recommended that the Bureau of Health and Public Instruction continue to urge its desirability.

COUNCIL ON PHARMACY AND CHEMISTRY

Your committee endorses emphatically the work of the Council on Pharmacy and Chemistry. It is recommended that every possible means be used to give wider publicity to this work. The success of the Council is dependent on the support of the individual physician.

COUNCIL ON PHYSICAL THERAPY

Your committee recommends continuance and extension of the work of the Council on Physical Therapy so that physicians may have available accurate knowledge concerning physical therapy and apparatus sold for its application in medical practice. The work of the Council in providing for education of the medical profession in this field is heartily approved.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

The bill granting physicians the right to deduct expenses incurred in attending scientific conventions from their income tax was passed by the Senate but killed in a conference committee. Your committee is gratified to know that the Bureau of Legal Medicine and Legislation has expressed its determination to continue vigorously its efforts to effect this legislation.

The committee recommends that every effort be applied to preventing extension of socialized medical practice by the government through the Veterans' Bureau and similar organizations. We approve of the efforts of the Bureau of Legal Medicine and Legislation in keeping in touch with all efforts in relation to expert testimony and we also approve of its efforts toward preventing abuses in this work.

The committee views with favor the work of the Board of Trustees and the Bureau of Legal Medicine and Legislation in relation to all legislative problems arising during the year.

BUREAU OF INVESTIGATION

The work of the Bureau of Investigation is gaining increasing interest among the public and the medical profession. A comparison of conditions today with what they were before this bureau was established will indicate the magnificent public service that this bureau has accomplished.

The expansion of the scientific exhibit is worthy of special commendation as one of the outstanding features of the annual session.

The attention of the House of Delegates is called particularly to the report of the Committee on Scientific Research indicating how the Association is spending largely of its funds in direct encouragement of scientific research.

Your committee commends the work of the Advisory Committee on Trachoma Among the Indians and urges that this efficient committee be continued.

Your committee urges that delegates visit county societies and that they keep the headquarters office advised of such activities.

Your reference committee has read with interest the account of the activities of the Committee on the Grading of Nursing Schools. This committee merits our appreciation for its attention to this work. The request for additional appropriation is referred to the Board of Trustees.

Your committee endorses the action taken by the Board of Trustees in relation to the refusal of the offer of the Physicians' Home, Incorporated.

Your committee views with interest the growth and work of the Woman's Auxiliary. Proper cooperation with this auxiliary may be of great service. It is recommended that the Advisory Committee of the Board of Trustees keep fully informed of the work of the Woman's Auxiliary so as to guide and direct its activities.

The leadership of the American Medical Association in its conferences on public health is commended, and the continuance of these conferences is recommended so that the cooperation of physicians in maintaining the public health may be secured and their fundamental place in all such efforts be properly recognized.

Your reference committee views with pride the extension of activities of the Association and commends the desire of the Board of Trustees to provide suitable increased facilities.

The Report of the Board of Trustees is only an epitome of the tremendous activities carried on by the Association under the direction of the Board of Trustees. The appreciation of the House of Delegates is due to the Board of Trustees and to approximately 500 employees who are devoting themselves faithfully to this work.

On motions duly seconded and carried, the report was adopted section by section and as a whole.

UNFINISHED BUSINESS

Address by Mrs. J. O. McReynolds

The Speaker introduced Mrs. J. O. McReynolds, president of the Woman's Auxiliary, who addressed the House as follows:

We undertook for our year's program four important pieces of work: First, to promote *Hygeia*. In doing that we have doubled the subscriptions to *Hygeia* that we secured the year before, *Hygeia* being sent by the Auxiliary members to the legislatures of many states and schools and colleges. We have just recently been offered a prize by one of the friends of the Auxiliary to the state that sends in the first 1,000 subscriptions to *Hygeia*. They will be presented with an automobile or a Mediterranean cruise, and that state will present the prize to the individual whose wife or daughter secures the largest number of subscriptions from that state.

Our journal was another feature that we undertook, but we found that we were not financially able to publish it monthly as we had hoped, and through the courtesy of the Texas Auxiliaries they donated this wonderful piece of journalism.

The next undertaking was to organize as many states as possible. We now have thirty-one states active and eight in process of organization. The remaining ten will be undoubtedly enlisted before another year under the leadership of our incoming president, Mrs. Allen H. Bunce of Atlanta. (Applause.)

The criticisms that we have received from the medical profession are from a few misinformed and skeptical gentlemen who are afraid that we might become the tools of the uplifters. That might have been possible a few years ago, but, since we have this advisory council consisting of the Executive Board of the Board of Trustees of the American Medical Association, I don't think we need worry, especially because each state auxiliary now is going to have its advisory council, and each local auxiliary is going to request a group of men to advise them and direct them in their work.

Every doctor's wife is a member of some other organization. We have urged and persuaded most of the Auxiliary members to see that their clubs have the health programs, and that the doctor's wife serve on those health programs and that they will have at least one health program during the year. You can see when this reaches all over the United States how organized medicine can be put before about three and a half million intelligent, capable women.

We could not have done anything at all, and we have taken no steps without the advice of our advisory council. Of course, Drs. West and Fishbein have had to bear most of it.

The work that we are particularly anxious to do is to put these health programs through our clubs with the moving picture as a medium. That is receiving much interest and enthusiasm everywhere we have gone. I was invited to be on the program of the Y. W. C. A. at the national conference in Sacramento. I presented one of our health programs with these moving pictures to demonstrate or emphasize the importance of annual physical examinations, and I have received already numerous letters from all over the country from the secretaries of the Y. W. C. A. asking how they could procure these films. I want to say that I would like to recommend to this body that, when the ladies of the Auxiliary or these organizations that are trying to put these programs over present them to the medical profession, you lend your cooperation and help.

It happens to be that I am affiliated with the Parent-Teachers' Association of America, and the president is a personal friend of mine. She said that if we would put out the proper organized medical programs with our moving pictures she would recommend them to every parent-teacher association in the country, and I have urged her to teach every one instead of calling them examinations to call them preschool inspections. She has promised that they will mean only inspections, and that they will be sent to their families, and if they have no family physicians they will recommend to those families that they engage one.

In that way, gentlemen, I believe we can uplift the uplifters. I thank you. (Applause.)

Report of the Reference Committee on Reapportionment of Delegates

The Secretary read the report of the Reference Committee on Reapportionment of Delegates:

The present number of delegates is 170 on the basis of one delegate for each 750 members, with, of course, every state that has not that many members represented by one delegate. The present membership of the Association requires that the basis of representatition shall be increased and the committee has considered 775 and 800 as the basis for representation. It has been found that on the basis of one delegate for each 775 members the House will be composed of 173 delegates, whereas the constitutional limit is 175. On the basis of 800 the House would be composed of 170 delegates. If 775, the figure recommended by the committee, is decided on, California will gain one delegate, Florida will gain one delegate, Iowa will lose one delegate, New Jersey will gain one delegate, New York will gain one, Pennsylvania will gain one, and Texas will lose one.

On the basis of 800, California would gain one, Florida would gain one, Iowa would lose one, Maine would lose one, New York would gain one, Pennsylvania, instead of gaining one, would remain as it is now, and Texas would lose one.

Your committee recommends, Mr. Speaker, that 775 be established the basic figure for reapportionment for the next three years. The committee also desires to suggest to the House that in all probability if the present rate of increase of membership continues, within two years it may be advisable to effect a new reapportionment, whereas the Constitution provides for a reapportionment every three years. I am not sure that the committee feels that it is wise to tamper with the Constitution, but the opinion was expressed at the meeting by members of the committee that those states who achieved worthily and who worthily increased their membership should be entitled to full representation.

If the House of Delegates should see fit, the committee would not oppose, certainly, the proposition to amend the Constitution, so that, if necessary, in order to insure equitable representation, a reapportionment should be effected two years from now rather than three years from now. The committee offers no definite recommendation in the matter at all.

V 90
1928

The Speaker: The motion is made by the chairman of the Committee that this report be adopted.

Dr. A. T. McCormack, Kentucky, seconded the motion, and it was carried.

Publication of List of Delegates in Attendance

Dr. A. E. Bulson, Jr., Indiana: I have been hearing a good deal for several years about publishing the attendance list of delegates, but so far as I am aware I don't think the list has ever been published. If I am in order I should like to make a motion to the effect that the list of attendance of delegates be published for the benefit of the constituents back home.

Dr. S. W. Welch, Alabama, seconded the motion, and it was carried.

Resolution on Physicians' Home and Indigent Physicians

The following resolution was presented by Dr. J. Richard Kevin, New York, and referred to the Reference Committee on Reports of the Board of Trustees and Secretary:

A committee was appointed by the House consisting of Dr. Simmons, chairman, and Drs. Witherspoon, McComas, Donaldson and Sullivan to investigate and report its findings on the need of the physicians' home. The following is the report of this committee:

"The result of this investigation convinces the committee that the need for a national home for incapacitated or indigent physicians is not sufficient to warrant the American Medical Association in establishing, managing or sustaining a home as contemplated by the resolutions creating this committee."

This report was based on a Simmons questionnaire which reported that very few physicians are in charitable institutions. Subsequently Dr. Hallock, secretary of the Board of Trustees of the Physicians' Home Incorporated, covered practically the same territory by another questionnaire. This questionnaire gave a return almost diametrically opposed to the results of the Simmons questionnaire. Because of the great difference of the two reports based on a questionnaire differently worded, we conclude that the subject is too large and important to be hurriedly disposed of on the basis of either the Simmons or the Hallock questionnaire; therefore be it

Resolved, That a Committee of the House of Delegates supervise and cause to have produced another questionnaire which will be drawn from selections of both the Simmons and the Hallock questionnaire, the surveys to be made by county societies, they reporting to state presidents, which in turn report to the House of Delegates in 1929.

Resolution on Association of Health Authorities

Dr. N. B. Van Etten, New York, presented the following resolution, which was referred to the Reference Committee on Hygiene and Public Health:

WHEREAS, Public health administration is a specialty of medicine, and

WHEREAS, No public health movement can attain its highest and best success without the hearty cooperation and sympathetic support of the members of the local medical profession, and

WHEREAS, A better understanding of the aims, ideals and aspirations of the members of the profession engaged in the public health field and the field of general medicine is desirable, therefore be it

Resolved, That a committee of three members of the House of Delegates of the American Medical Association be appointed by the Speaker to meet with the Association of Health Authorities of North America, in convention assembled, and that that association be invited to appoint a similar committee of three to meet with the House of Delegates at its annual meetings.

Resolution on Motion Pictures

Dr. Orrin Sage Wightman, New York, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

Resolved, That a committee on visual moving picture education be appointed by the Board of Trustees of the American Medical Association who shall organize such methods of procedure as shall bring the ethical showing of medical and surgical moving picture films within the authority and approval of organized medicine.

Resolution on Teaching Obstetrics

Dr. J. O. Polak, Section on Obstetrics, Gynecology and Abdominal Surgery, presented the following resolution, which was referred to the Reference Committee on Medical Education:

WHEREAS, Obstetrics is a major subject and makes up the greater part of the work of the general practitioner, and

WHEREAS, The maternal mortality in the United States is admittedly higher than that of other civilized countries except Chile, and

WHEREAS, The graduate who goes into surgery equips himself by special training, while every medical graduate who goes into general practice must practice obstetrics and may at any time be called on to meet any type of obstetric emergency, and

WHEREAS, The Committee on Curriculum of the American Medical Association and the American Association of Medical Colleges has recommended cutting down the hours allotted to the teaching of obstetrics, be it

Resolved, That the members of the House of Delegates of the American Medical Association most emphatically disapprove of any reduction of the hours allotted to the teaching of obstetrics, and advocate that obstetrics, as a major subject, be allotted a number of hours equal to those allotted to surgery, and be it further

Resolved, That a copy of this resolution be sent to the secretary of the Committee on Medical Education of the American Medical Association and to the secretary of the American Association of Medical Colleges.

Resolution on Aid to Libraries

Dr. J. O. Polak, Section on Obstetrics, Gynecology and Abdominal Surgery, presented the following resolution, which was referred to the Board of Trustees:

WHEREAS, One of the objects of the American Medical Association is to promote the science and art of medicine, and the betterment of public health through education of the general practitioner, and

WHEREAS, The transactions of the sections of the American Medical Association and its other publications include the principal advances in American medicine, be it

Resolved, That the Board of Trustees be asked to authorize the expenditure of such funds as may be necessary to place in the seven large medical libraries of the United States (libraries of more than 50,000 volumes) the section transactions and other important publications issued by the American Medical Association.

Resolution on Veterans' Bureau

Dr. D. E. Sullivan, New Hampshire, introduced the following resolution, which was referred to the Board of Trustees:

WHEREAS, The United States Veterans' Bureau is the largest medical activity in the United States, and

WHEREAS, There is a great amount of misunderstanding among the medical profession concerning its work and its responsibilities, and

WHEREAS, Dr. E. O. Crossman, the medical director, is anxious to cooperate with the American Medical Association in every possible way; therefore be it

Resolved, That the Trustees of the American Medical Association be directed to appoint a committee of three to act as a liaison between the Medical Department of the Veterans' Bureau and the American Medical Association, and that said committee make an annual report to the Association.

Expenses of the President

The President of the Association spoke as follows:

I don't desire to address the House, but I desire to present for your consideration something that I think is of importance. My experience in the past two years has demonstrated very thoroughly the fact that while the office of President of the American Medical Association is one of a great deal of dignity and importance, it is likewise one of a considerable matter of expense.

The President of the American Medical Association and the President-Elect are naturally called on by almost all the different state and many local societies to visit and to deliver addresses. This naturally consumes a good deal of time and a good deal of mental energy, but in addition to that it includes, as I know, a considerable amount of expense.

The time may possibly come when some man highly scientific, a man that the Association desires to honor with the presidency, may find himself financially unable to meet the obligations as to expense. I desire to recommend, therefore, to the House of Delegates that the Board of Trustees be instructed to make an adequate appropriation for the traveling expenses of the President-Elect and the President of the American Medical Association. This is done by practically all large associations with which I am familiar, and it is feasible for me to say this now because it doesn't affect me, but it may affect very seriously some of the men who may be elected in the future.

The Speaker: Does any delegate desire to make a motion incorporating the recommendations just made by the President?

Dr. D. S. Dougherty, New York, moved that a certain amount be appropriated to defray the expenses of the President during his term of office.

Dr. C. E. Mongan, Massachusetts, seconded the motion, and it was referred to the Board of Trustees.

The House of Delegates recessed at 12:30 p. m., to convene at 2 p. m., Thursday, June 14.

Third Meeting—Thursday Afternoon, June 14

The meeting was called to order at 2 o'clock by the Speaker, Dr. Fred C. Warnshuis.

Supplementary Report of the Reference Committee on Credentials

Dr. J. D. Brook, Michigan: Since the last report on Tuesday we have received satisfactory credentials of additional delegates, making a total registration to the minute of 154. There are two states from which one delegate and alternate are not present, because of sickness. The first delegate not present is Dr. Donaldson of Pennsylvania. His alternate is not present, either, and your committee has a request that Dr. Arthur H. Gross be seated as alternate. We also have a request from Michigan, as a result of the hospitalization of Dr. Hirschman, the delegate, whose alternate is absent, that Dr. H. E. Randall be seated. The committee feels that as near as possible we should have full delegations, and recommends that these two gentlemen be seated.

Dr. A. T. McCormack, Kentucky, moved that these delegates be seated. The motion was carried.

Dr. Brook announced a total registration of 156 delegates and moved that the report be adopted. The motion was seconded and carried.

The Secretary called the roll and announced the presence of a quorum.

Dr. Brook stated that Dr. J. Tate Mason had filed proper alternate credentials for Dr. Graham of the Section on Surgery, General and Abdominal, and he was seated as the delegate from that section.

Dr. A. T. McCormack, Kentucky, moved that the reading of the minutes be dispensed with; seconded by Dr. Arthur J. Bedell, New York, and carried.

Report of Reference Committee on Rules and Order of Business

Dr. H. P. Linsz, West Virginia, reported that the committee found that the resolution introduced by Dr. Southgate Leigh, Virginia, recommending making the presidents of state associations members of the House of Delegates, was inconsistent with the Constitution and By-Laws.

It was moved that this resolution be not adopted. The motion was seconded and carried.

Dr. Linsz read the following resolution:

WHEREAS, It is eminently desirable that the various state societies be brought into closer contact with the American Medical Association; therefore be it

Resolved, That the Trustees of the American Medical Assocation continue their efforts to bring about a closer affiliation between the parent association and the state societies.

Dr. Linsz moved that the resolution be adopted. The motion was seconded and carried.

Supplementary Report of the Reference Committee on Medical Education

Dr. William Allen Pusey, Illinois, read the following report of the committee:

A resolution is presented by the delegate from the Section on Obstetrics, Gynecology and Abdominal Surgery calling attention to the importance of obstetrics in the work of the general practitioner, and stating that the Committee on Curriculum of the American Medical Association and that of the American Association of Medical Colleges has recommended the reduction of the number of hours allotted to the teaching of Obstetrics, and that on the basis of its importance obstetrics as a major subject should be allotted a number of hours equal to the allotment to surgery.

The committee would make the point that the importance of a subject or the amount of work that it constitutes for the general practitioner alone is not a proper measure of the time which should be allotted to the study of that subject: that the proper measurement is the amount of time necessary for the adequate presentation of the subject. For example, the treatment of the minor diseases of the respiratory tract constitutes one of the largest divisions of general practice, as investigation shows; basing the allotment of teaching on that fact alone would require that as much time should be devoted to the teaching of the respiratory diseases as to all of surgery or to nearly all of the rest of the diseases that are included under the practice of medicine.

The committee also feels that definite instructions of this sort to councils and other bodies engaged in the working out of difficult problems are inadvisable; that freedom and initiative should not be hampered by rigid instructions, particularly by instructions originating in bodies that have special interest and may, therefore, not be able to see their own subject in proper prospective or in proper proportions.

The committee would not indicate by anything that is said in this report that it minimizes the importance of thorough instruction in obstetrics. It is sure that every organization now considering the subject or that gives it any thought realizes the importance of its thorough presentation.

The committee recommends that the resolution be not adopted.

Dr. Pusey moved the adoption of the report. The motion was seconded by Dr. A. T. McCormack, Kentucky, and carried.

Supplementary Report of the Reference Committee on Legislation and Public Relations

Dr. Southgate Leigh, Virginia, presented the following report:

The resolution introduced by Dr. Wightman of New York to appoint a committee on visual moving picture education is approved by the committee and recommended for adoption by the House.

Dr. Leigh moved the adoption of the report. The motion was seconded by Dr. J. Norman Henry, Pennsylvania, and carried.

Supplementary Report of the Reference Committee On Hygiene and Public Health

Dr. A. D. Dunn, Nebraska: On the resolution calling for a liaison between the public health authorities of North America and the American Medical Association, the committee recommends that the resolution be not adopted.

Dr. Dunn moved the adoption of this section of the committee's report. Dr. A. E. Bulson, Jr., Indiana, seconded the motion.

Dr. S. W. Welch, Alabama: This resolution is the outcome of a gesture made by the American Medical Association to the state health authorities of the United States in meeting with them for a better understanding of the aims and purposes of the two groups. We have held two meetings in Chicago at the end of March of this year and the year before. This resolution is a continuance of that gesture. Discoveries are made in the field of medicine every day, too many to be initiated and applied by the individual practitioner. The doctors of America need an agency through which they can apply the scientific discoveries to prevention of disease among the group. State health agencies are the natural agencies through which the local medical societies can operate. All that was meant by that resolution was to invite a closer scrutiny of the methods, by the American Medical Association, applied by the health agencies of the several states. I think the ruling of the committee is entirely correct.

This section of the report of the committee was adopted.

Dr. Dunn read the report of the committee recommending the approval of legislation providing for coordination and increased efficiency of the public health activities of the federal government, and moved the adoption of this section of the report. The motion was secondedby Dr. A. T. McCormack of Kentucky, and carried.

Dr. Dunn moved the adoption of the report as a whole. The motion was seconded by Dr. Albert Soiland of California and carried.

Supplementary Report of the Reference Committee on Amendments to the Constitution and By-Laws

Dr. E. C. Thrash, Georgia, read the section of the report dealing with a communication from Dr. Southgate Leigh, Virginia, with respect to making the By-Laws for alternates in the House of Delegates more flexible.

V 90
1928

Dr. Thrash: The committee recommends that Dr. Leigh formulate the subject matter in his communication into a resolution and submit the resolution to the House of Delegates when it convenes in 1929.

Dr. Thrash moved the adoption of the report. The motion was seconded by Dr. Arthur J. Bedell, New York, and carried.

Supplementary Report of Reference Committee on Reports of Board of Trustees and Secretary

Dr. A. W. Booth, New York, presented the following report:

Your committee has reconsidered that part of its report relative to indigent physicians, after having held a public hearing on the question.

As a result of this hearing it is recommended that the Board of Trustees appoint a commission of five to consider the situation, including the various solutions that have been proposed, and the question of the responsibility of the American Medical Association in this important matter.

On motion, duly seconded by Dr. J. Richard Kevin, New York, the report was adopted.

Supplementary Report of the Board of Trustees

Dr. J. H. Walsh, secretary of the Board of Trustees, presented the following report relative to the paying of traveling expenses of the President and the President-Elect, on the resolution on the Veterans' Bureau offered by Dr. Sullivan, on the resolution offered by Dr. J. O. Polak on section transactions and on the resolution of Dr. Southgate Leigh on dates of the annual meetings of the Association:

It has been, and is, the policy of the Board of Trustees to pay the expenses incurred by any representative of the Association in attendance at any occasion as an official representative of the Association.

The Board of Trustees appreciates the cooperation offered by Dr. E. O. Crossman for the medical department of the Veterans' Bureau, and will be glad to refer the offer to its proper Committee on Comity.

The Board feels that it would be unwise and inexpedient to undertake such free distribution of its publications as is contemplated in the resolution of Dr. Polak.

The Board in selecting the date of the annual session is constantly mindful of the interests of Fellows of the Association.

Dr. Thomas C. Chalmers, New York, moved the adoption of the report. The motion was seconded by Dr. Henri P. Linsz, West Virginia, and, after discussion by Drs. Jabez North Jackson, Wendell C. Phillips and the Secretary, was adopted.

Election of Officers

Dr. C. J. Whalen, Illinois, nominated Dr. M. L. Harris, Chicago, for President-Elect of the American Medical Association. Dr. Harris' nomination was seconded by Dr. T. E. Carmody, Colorado; Dr. William Jepson, Iowa; Dr. A. W. Hornbogen, Michigan; Dr. C. E. Mongan, Massachusetts; Dr. L. L. Sheddan, Tennessee; Dr. A. E. Bulson, Jr., Indiana; Dr. Martha Welpton, California; Dr. C. W. Waggoner, Ohio; Dr. R. W. Fouts, Nebraska, and Dr. William G. Ricker, Vermont.

Dr. Philip S. Roy, District of Columbia, nominated Dr. William Gerry Morgan, Washington, D. C. Dr. Morgan's nomination was seconded by Dr. Arthur W. Booth, New York; Dr. A. T. McCormack, Kentucky; Dr. W. B. Russ, Texas; Dr. John W. Preston, Virginia; Dr. Victor G. Vecki, California; Dr. W. Lee Hart, United States Army; Dr. Charles O'Donovan, Maryland; Dr. W. F. Draper, U. S. Public Health Service, and Dr. J. D. Brook, Michigan.

On motion of Dr. J. D. Brook, Michigan, seconded by Dr. Arthur J. Bedell, New York, the nominations were closed.

The Speaker appointed as tellers Dr. Frederick Epplen, Washington; Dr. Thomas C. Chalmers, New York; Dr. B. S. Pollak, New Jersey; Dr. T. O. Freeman, Illinois, and Dr. A. W. Hornbogen, Michigan.

The Secretary announced that 144 votes had been cast, of which 80 were for Dr. M. L. Harris and 64 for Dr. William Gerry Morgan.

Dr. Harris having received the majority of the votes cast, the Speaker declared him duly elected President-Elect of the American Medical Association.

Dr. Philip S. Roy, District of Columbia, moved that the election of Dr. Harris be made unanimous. The motion was seconded by Dr. J. D. Brook, Michigan, and carried.

Dr. W. L. Burnap, Minnesota, nominated Dr. W. A. Jones, Minneapolis, for Vice President of the American Medical Association. The nomination was seconded by Dr. N. B. Van Etten, New York. Dr. T. O. Freeman, Illinois, moved that nominations be closed. The motion was seconded by Dr. C. J. Whalen, Illinois, and carried, and Dr. W. A. Jones was unanimously elected Vice President.

Dr. J. Norman Henry, Pennsylvania, nominated Dr. Olin West, Chicago, as Secretary, and the nomination was seconded by Dr. Albert Soiland, California; Dr. Carl F. Moll, Michigan; Dr. M. M. Cullom, Tennessee; Dr. T. E. Carmody, Colorado; Dr. A. E. Bulson, Jr., Indiana, and Dr. E. J. Goodwin, Missouri.

A motion was regularly made, seconded and carried that the nominations be closed and the Speaker cast the unanimous ballot of the House for Dr. Olin West as Secretary.

Dr. Olin West was unanimously elected Secretary.

Dr. Edward B. Heckel, Board of Trustees, nominated the present efficient incumbent, Dr. Austin Albert Hayden, Chicago, as Treasurer. Dr. Hayden was unanimously elected Treasurer.

Vice Speaker Allen H. Bunce took the chair.

Dr. J. D. Brook, Michigan, nominated Dr. Fred C. Warnshuis, Michigan, as Speaker of the House of Delegates; seconded by Dr. A. E. Bulson, Jr., Indiana.

Dr. A. T. McCormack, Kentucky, moved that nominations be closed; seconded by Dr. Bulson and carried.

Dr. Fred C. Warnshuis was unanimously elected Speaker of the House of Delegates.

The Speaker resumed the chair.

Dr. E. C. Thrash, Georgia, nominated Dr. Allen H. Bunce, Georgia, as Vice Speaker of the House; seconded by Dr. Henri P. Linsz, West Virginia, who moved that nominations be closed.

Dr. C. J. Whalen, Illinois, seconded the motion, and Dr. Bunce was unanimously elected Vice Speaker.

Dr. J. W. Van Derslice, Illinois, nominated Dr. J. H. Walsh, Chicago, to succeed himself as Trustee.

Dr. Walsh's nomination was seconded by Dr. Frank Smithies, Section on Gastro-Enterology and Proctology; Dr. N. B. Van Etten, New York; Dr. Isaac A. Abt, Section on Diseases of Children; Dr. William H. Mayer, Pennsylvania, and Dr. S. W. Welch, Alabama. Dr. A. T. McCormack, Kentucky, moved that nominations be closed. The motion was seconded by Dr. Arthur J. Bedell, New York, and Dr. Walsh was elected to succeed himself as Trustee for five years.

Dr. A. D. Dunn, Nebraska, nominated Dr. A. R. Mitchell to succeed himself as Trustee. Dr. Mitchell's nomination was seconded by Dr. C. E. Humiston, Illinois; Dr. Philip Marvel, New Jersey; Dr. J. W. Burns, Texas; Dr. J. Newton Hunsberger, Pennsylvania; Dr. S. W. Welch, Alabama, and Dr. O. M. Gilbert, Colorado.

Dr. McLain Rogers, Oklahoma, moved that nominations be closed. The motion was seconded and carried, and Dr. Mitchell was unanimously elected to succeed himself as Trustee for five years.

Address of President-Elect M. L. Harris

Mr. Speaker, Members of the House of Delegates:

I feel that I should be much better able to give expression to the deep appreciation which fills my heart were it not for the lump that is constantly rising in my throat. To be elected to the high position of official leader of this great organization is certainly the greatest honor that can come to any one in his professional career. Appreciating as I do this honor, to me the greatest satisfaction is found in the confidence and approval which you have just shown to me.

The position and the election is not alone to be contemplated with pleasure. There comes the deep regret of having to sever my connections with the Judicial Council. My colleagues on the Council by their untiring deliberation, by their great judgment and unyielding fidelity to the high ideals of this organization have made me love them, and I leave them with regret.

The position of the President of this organization is one which I think is an honor not to be worn ostentatiously, but one which carries with it duties and obligations which cannot be delegated. I understand that the President is frequently called on to address societies, medical and lay as well, and I believe it is the duty of the President at all times to give expression to the adopted principles and policies of this House of Delegates, and that any views of a personal nature which he may have at variance with these principles should not be given expression to as coming from this organization.

I hope and trust that during my incumbency of this office I may continue to have your approval and approbation, and when I yield it to my successor I hope that it will be unsullied. (Applause.)

Nominations for Standing Committees

The President, Dr. W. S. Thayer, presented the following nominations for standing committees:

For the Judicial Council, Dr. F. W. Cregor, Indianapolis.

For the position made vacant on that council by the election of Dr. M. L. Harris as President-Elect, Dr. James B. Herrick, Chicago.

For the place of Dr. Roger S. Morris on the Council on Scientific Assembly, Dr. Roger S. Morris, Cincinnati.

For the Council on Medical Education and Hospitals, vice Dr. Bevan, Dr. Reginald Fitz, Boston.

Dr. A. T. McCormack, Kentucky, moved that the nominations be confirmed; seconded by Dr. E. P. Sloan, Illinois, and carried.

Election of Affiliate, Honorary and Associate Fellows

The Secretary read the list of names proposed for Affiliate Fellowship and approved by the Council on Scientific Assembly.

Dr. Albert Soiland, California, moved that they be elected Affiliate Fellows. The motion was seconded and carried.

The Secretary read the list of names proposed for Honorary Fellowship.

Dr. Arthur J. Bedell, New York, moved that these men be elected Honorary Fellows. The motion was seconded and carried.

The Secretary read the list of names proposed for Associate Fellowship.

Dr. Albert Soiland, California, moved that these nominees be elected to Associate Fellowship. The motion was seconded and carried.

Place of 1929 Annual Session

Dr. J. H. Walsh, Secretary, Board of Trustees, presented the following report:

The Board of Trustees presents to the House of Delegates the names of the following cities in the order in which the invitations were received for the annual session of the American Medical Association to be held in 1929: Atlantic City; Portland, Ore.; Cincinnati; Memphis, Tenn.; Philadelphia; Detroit.

It has investigated Portland and Atlantic City; the facilities are adequate.

Dr. C. T. Pigot, Montana, asked for the constitutional provisions governing the selection of a city.

The Secretary read article 10 of the Constitution.

The Secretary stated that the invitations from Atlantic City and from Portland and from Cincinnati were all received more than sixty days before this session. The invitation from Memphis is dated May 10, 1928. The invitation from Philadelphia County Medical Society is dated May 16, 1928. The invitation from the Wayne County Medical Society of Detroit is dated June 2, 1928.

Dr. A. E. Bulson, Jr., Indiana, moved that the House consider the application of the two cities investigated by the Board of Trustees and found to be satisfactory, Portland, Ore., and Atlantic City, N. J. The motion was seconded by Dr. Thomas C. Chalmers, New York, and carried.

One hundred and forty votes were cast, of which Portland received 96 and Atlantic City 44.

Unfinished Business

Dr. Henry Boswell, Mississippi, introduced resolutions of sympathy to Dr. E. P. North, Missouri; Dr. E. Eliot Harris, New York, and Dr. W. J. Ferguson, Missouri, absent on account of illness.

Dr. Carl F. Moll, Michigan, added the name of Louis J. Hirschman, Michigan.

Dr. J. Norman Henry, Pennsylvania, added the name of Dr. Walter F. Donaldson, Pennsylvania.

It was moved and seconded that the Secretary send to these delegates, who were unable to be present on account of illness, the good wishes of the House.

The motion was carried.

Dr. A. E. Bulson, Jr., Indiana, moved that the House of Delegates extend a vote of thanks to the governor of Minnesota, to the officials of Minneapolis, and all the good people of Minneapolis, not excepting the members of the medical profession, for the splendid entertainment and all of the courtesies that had been afforded and the preparations and facilities for an excellent meeting.

The motion was seconded by Dr. Arthur W. Booth, New York, and carried unanimously.

Presentation of Visiting Delegates

Dr. Chavarria of the Medical Society of Costa Rica was introduced, and addressed the House.

Gentlemen:

I have traveled two weeks to come to this charming and beautiful city of Minneapolis. I have covered thousands of miles to come here to meet you gentlemen and to bring you the cordial greetings of the Costa Rica Medical Society in Central America and to present you our deepest appreciation for the marvelous work that you have accomplished for the health not only of the American people but also the people of our countries in Central and South America. We appreciate all the marvelous work that you h ve done for the benefit of the physicians of the world. I greet you, gentlemen. (Applause.)

The House adjourned sine die at 4 o'clock.

V 90
1928

REGISTRATION AT MINNEAPOLIS

The total registration at the Minneapolis Session was 4,876. Below are given two summaries—one by sections and one by states:

REGISTRATION BY SECTIONS

Practice of Medicine	1,564
Surgery, General and Abdominal	1,059
Obstetrics, Gynecology and Abdominal Surgery	312
Ophthalmology	267
Laryngology, Otology and Rhinology	249
Diseases of Children	240
Pharmacology and Therapeutics	27
Pathology and Physiology	121
Nervous and Mental Diseases	115
Dermatology and Syphilology	109
Preventive and Industrial Medicine and Public Health	137
Urology	156
Orthopedic Surgery	108
Gastro-Enterology and Proctology	97
Radiology	134
Miscellaneous	181
Total	4,876

REGISTRATION BY STATES

Alabama	14	Nevada	1
Arizona	9	New Hampshire	7
Arkansas	17	New Jersey	23
California	127	New Mexico	7
Colorado	70	New York	193
Connecticut	17	North Carolina	11
Delaware	2	North Dakota	150
District of Columbia	33	Ohio	159
Florida	15	Oklahoma	60
Georgia	26	Oregon	35
Idaho	2	Pennsylvania	152
Illinois	397	Rhode Island	5
Indiana	84	South Carolina	9
Iowa	352	South Dakota	114
Kansas	56	Tennessee	41
Kentucky	53	Texas	116
Louisiana	19	Utah	12
Maine	6	Vermont	5
Maryland	25	Virginia	17
Massachusetts	74	Washington	48
Michigan	138	West Virginia	8
Minnesota	1,466	Wisconsin	299
Mississippi	20	Wyoming	7
Missouri	140	Foreign	74
Montana	47		
Nebraska	114	Total	4,876

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Increase in Mental Patients.—A preliminary report by the U. S. Department of Commerce for 1927 based on figures furnished by the two state hospitals of Alabama indicate that the increase of first admissions to these hospitals between 1922 and 1927 was relatively much greater than the growth in the state's population during that period, as shown by the fact that the first admissions in 1927 numbered 38.5 per hundred thousand of population as compared with 35.5 in 1926 and 26 in 1922. On Jan. 1, 1928, there were 133.5 patients per hundred thousand of the general population under treatment, as compared with 95.4 per hundred thousand, Jan. 1, 1910. The number of patients under state hospital care decreased during 1923, but steadily increased between 1910 and 1922 and also since 1923. The first admissions to the state institutions last year amounted to 495 males and 486 females, and the total number present in the hospitals, Jan. 1, 1928, was 1,596 males and 1,824 females.

CONNECTICUT

Society News.—About 400 persons attended the eighteenth annual convention of the Connecticut Conference of Social Work, Stamford, April 22-25; next year's conference is to be held in Middletown.——Dr. Harris A. Houghton, New York, addressed the staff of the Danbury Hospital, Danbury, May 9, at the Ridgewood Country Club on "Advances in the Treatment of Cardiorenal Disease."

Dr. F. d'Herelle Appointed Professor at Yale.—President Angell of Yale University announced, June 12, the appointment of Dr. F. d'Herelle of Paris, France, as professor of bacteriology in the Yale University School of Medicine. Although best known, perhaps, for his development of the subject of bacteriophagy, Dr. d'Herelle has made conributions in other fields. He was born in Montreal, and still retains his Canadian citizenship. At an early age he went to France and there acquired an education. He was bacteriologist to the government of Guatemala from 1901 to 1905, conducting investigations on the bacteriology of tropical fruits. For the next two years he was employed in Yucatan, by the Mexican government, along similar lines. During this work he undertook a study of insect diseases and here first observed the bacteriophage phenomena. Leaving Mexico, he returned to Paris, and from 1908 to 1914 was sent at different times by the Pasteur Institute on scientific missions to Argentina, North Africa, Asia and Tunis. He was chief of the laboratory service for the preparation of the vaccines used by the French army during the World War, at the close of which he made a study of the relationship of bacteriophage to hemorrhagic septicemia diseases, inciuding plague in man and in animals in Indo-China. Dr. d'Herelle returned to the Pasteur Institute, and then went to the University of Leyden, where he received the degree of "M.D. honoris causa." He is the only person living who holds this degree from Leyden. He was granted the Leeuwenhoek medal by the Amsterdam Academy, which medal is granted once in ten years. The previous recipients of the medal were Cohnheim, Pasteur, Metchnikoff and Bruce. Leaving the University of Leyden in 1924, Dr. d'Herelle went to Alexandria, Egypt, as director of the bacteriologic laboratory of the quarantine service. This position he held under the French government acting in conjunction with the League of Nations; his duty involved a study of cholera and plague, with particular reference to the Pilgrimage to Mecca. During the last year he was retained by the British government. Securing a leave of absence from Alexandria, he spent six months studying cholera in India, and is now at his post in Alexandria. Dr. d'Herelle is expected to arrive in this country about September 1, when he will join the department of bacteriology at Yale.

GEORGIA

Society News.—A symposium on organic heart disease was presented by Drs. Elmore C. Thrash, S. A. Folsom, Orlando, Fla., Edgar D. Shanks and Stewart R. Roberts before the Fulton County Medical Society, Atlanta, June 7.——Dr. Dunbar Roy, Atlanta, left, June 9, to attend the International Congress of Otorhinolaryngology in Copenhagen, July 29.

Medical School Celebrates Centennial.—The recent commencement of the medical department of the University of Georgia, Augusta, marked the centennial of the founding of the school and the graduation of its ninety-eighth class, no classes having been graduated for two years during the Civil War. The governor of the state, Dr. Lamartine G. Hardman, Commerce, an alumnus, and Senator Walter George, were the principal speakers. The alumni association of the medical school, which met during the celebration, voted to conduct a campaign for $300,000 to erect an alumni memorial building. The officers of the alumni association elected at this meeting are Dr. Robert L. Miller, Waynesboro, president; Dr. Guy T. Bernard, Augusta, vice president, and Dr. George Lombard Kelly, Augusta, secretary-treasurer, reelected.

Contract Practice Opposed.—The Fulton County Medical Society, Atlanta, published in its June 7 bulletin the fee bill adopted about eight years ago. In a foreword, the president of the board of trustees states that this is the first effort to combat the tendency of organizations of different kinds to offer contracts for medical care with a decided cut in physicians' charges. It is the desire of the board that all members read the entire report of the fee bill committee of 1920. The committee of fifteen, which wrote the report, was divided into subcommittees, one each for internal medicine, urology, neuropsychiatry, pediatrics, roentgenology, surgery, eye, ear, nose and throat and clinical laboratory work. The following are a few of the fees listed in the 1920 report: obstetric cases, regular cases, $50; urologic examination at office, $10; office visits, $2; neurologic examination, $25; mental examinations, $50, and regular office visits, $3. The subcommittee of roentgenologists felt that there was nothing to be gained by making a public statement of specific charges for the various types of procedure incident to their specialty. The subcommittee of surgeons recommended that "no action be taken in regard to fixing fees for surgical operations." The subcommittee on eye, ear, nose and throat fixed as minimum fees for first office visits, $5; subsequent office visits, $3; tonsillectomy, $50; standard fee for refraction, $10, and radical mastoid, $250. The subcommittee on clinical laboratory fixed a fee of $5 for the Wassermann reaction; chemical analysis of the blood, $10; pneumonia typing, $10; malaria blood examination, $5, and red, white and differential blood count and hemoglobin test, $10.

ILLINOIS

Hospital News.—The $150,000 addition to St. Elizabeth's Hospital, Belleville, will be dedicated, July 19, when the building will be open to the public. The old hospital building is to be modernized and made fireproof. The new addition increases the capacity of the institution from eighty to 200, providing a maternity ward, operating rooms, administrative offices and thirty-five private rooms.——The cornerstone of the addition to St. Mary's Hospital, Quincy, was laid, May 20.——A $1,000,000 St. Therese Hospital is under construction at Waukegan; the steel work was completed in March.

Personal.—Dr. Earl B. Miller, Quincy, has resigned as director of the Adams County Tuberculosis Sanatorium, and the institution is being conducted by a staff comprising Drs. Grant Irwin, Richard A. Harris and Milton E. Bitter, all of Quincy. Dr. Bitter has recently been reelected house physician for the Anna Brown Home for the Aged of Quincy.——Dr. Hugh H. West has been elected president of the Elgin Physicians' Club for the ensuing year.——Dr. Arthur H. Gollmar, after practicing medicine at Kankakee for about fourteen years, has accepted a position with the state welfare department as a member of the staff of the state hospital at Jacksonville. Previous to his departure he was guest of honor at a dinner given by his associates and friends.

Chicago

John B. Murphy Hospital Sold.—The Catholic Diocese of Chicago has purchased the John B. Murphy Hospital, 620 Belmont Avenue, for about $400,000, it is reported, and it will be operated by the Sisters of Mercy, who own and operate the Mercy Hospital. The John B. Murphy Hospital was built about five years ago as a memorial. It is a four-story building with two nurses' homes and grounds of 200 feet frontage. The capacity is 101 beds.

Personal.—Dr. Elmer W. Mosley has been appointed chief police surgeon by Police Commissioner Hughes to succeed the late Dr. George Hunt, who held that position for about sixteen years.——According to *The Lancet*, a resident in Chicago has offered £10,000 to Queens University, Ontario, Canada, to found a chair of preventive medicine and public health.——At

the commencement, June 9, of the University of Illinois College of Medicine, Edward A. Boyden, Ph.D., associate professor of anatomy, was awarded the Beaumont Memorial prize of $100 in recognition of his research on physiology of the gallbladder. This prize is the income from a fund donated by Dr. Frank Smithies in 1925.——Drs. George F. and Gladys R. H. Dick received the honorary degree of doctor of science at the seventieth annual commencement of Northwestern University, June 18.

Award of Willard Gibbs Medal.—The Chicago section of the American Chemical Society, May 25, awarded the Willard Gibbs Medal to Prof. William D. Harkins, Ph.D., University of Chicago, at the annual dinner at the Palmer House. Professor Harkins gave an address on "Surface Structure and Atom Building." The other speakers included Profs. Arthur H. Compton, Ph.D., recent winner of the Nobel prize in physics; Leo H. Backeland, D.Ch., Columbia University; President Max Mason of the University of Chicago; Prof. Samuel W. Parr, D.Sc., of the University of Illinois and president of the American Chemical Society, and Profs. Samuel C. Lind, Ph.D., University of Minnesota, and George L. Clark, Ph.D., of the University of Illinois. The jury of award comprised professors from a number of universities throughout the country. The previous winner of the Willard Gibbs medal is Dr. John J. Abel, professor of pharmacology, Johns Hopkins University School of Medicine, Baltimore.

INDIANA

George Ade Entertains District Society.—The Tenth Indiana District Medical Society held its annual meeting, June 7, on George Ade's farm near Brook. The well known Hoosier author is said to have turned over for the use of the society on this occasion all of the recreational facilities of his estate, among which were the golf links and bridle paths. More than 300 physicians were expected to attend.

Society News.—Dr. James Wilson, Wabash, was elected president of the Eleventh Indiana Councilor District Medical Society at the recent meeting in Peru. The society will meet next in Marion in October. At this meeting the Howard County Medical Society was awarded a loving cup for the largest attendance.——At the fiftieth anniversary of the Wells County Medical Society, Bluffton, June 5, Dr. George S. Bond, professor of medicine, Indiana University School of Medicine, Indianapolis, gave an address on heart disease. Dr. Isaac N. Hatfield, Bluffton, gave a history of the society in which he stated that up until twenty years ago there had been an average of forty physicians in the county for a period of nearly thirty years, whereas at present there are eighteen.——The May 29 meeting of the Indianapolis Medical Society was a business meeting to discuss group insurance; the next regular meeting will be October 2.——The Independent Order of Odd Fellows has created a hospital building fund through a levy of 20 cents a year on its members for the purpose of erecting a $150,000 hospital at its home in Greensburg when the fund becomes large enough to meet the cost of construction.——The annual Wabash River catfish dinner of the Fountain-Warren County Medical Society was held at Rogers Park, Covington, June 7. Dr. Louis H. Segar, Indianapolis, gave an address.

KENTUCKY

Old-Fashioned Birthday Celebration.—Forty-three friends assembled, May 24, at the home of Dr. William N. Bailey, White Plains, to celebrate his seventieth birthday at a "real old-fashioned country dinner." Dr. Bailey was presented with a gold watch. He has practiced medicine in Hopkins County for forty-three years, and with him is associated his brother, Dr. Wesley B. Bailey.

Personal.—Governor Sampson appointed Drs. E. Murphy Howard, Jr., Harlan, and Lawrence T. Minish, Frankfort, as members of the state board of health for a period of four years, succeeding Drs. Joseph E. Wells, Cynthiana, and James W. Kincaid, Catlettsburg.——Dr. James A. Averdick, Covington, received the honorary degree of doctor of laws at the annual commencement of the University of Dayton, Ohio, June 9-11.

Health at Louisville.—Telegraphic reports to the U. S. Department of Commerce from seventy cities with a total population of about 31 million, for the week ending May 19, indicate that the highest mortality rate (23.2) was for Louisville, and that the mortality rate for the group of cities as a whole was 14.3. The mortality rate for Louisville for the corresponding week last year was 12.4, and for the group of cities, 12.3.

Society News.—Dr. William A. Guthrie, Franklin, was elected president of the Third District Medical Society for the ensuing year, May 30; among others, Drs. Oval N. Bryan and Waller S. Leathers of Vanderbilt University School of Medicine, Nashville, Tenn., spoke on "Treatment of Advanced Heart Failure" and "The Profession, the Public and Public Health," respectively.——Dr. Edward B. Houston, Murray, was elected president of the Southwestern Kentucky Medical Association at its fifty-eighth annual meeting at Paducah, May 8.——Bell County's new full-time health unit has begun operations under the state board of health with Dr. Millard D. Hoskins, county health officer.

Increase in Feebleminded and Epileptics.—A preliminary report by the U. S. Department of Commerce based on reports furnished by the Kentucky State Institution for Feebleminded for 1927 indicates that the increase in the number of first admissions to this state hospital between 1922 and 1927 was relatively somewhat greater than the growth in the state's population. The first admissions in 1927 numbered 1 per hundred thousand of population, and in 1922 they numbered 0.9. On Jan. 1, 1928, there were 17.9 patients under care for each hundred thousand of population, as compared with 9.1 patients per hundred thousand, Jan. 1, 1910. The total first admissions in 1927 were twenty-six; in 1926, twenty-nine, and in 1922, twenty-two. The number of patients in the Kentucky State Institution for Feebleminded, Jan. 1, 1928, was 456 as compared with 208, Jan. 1, 1910.

MASSACHUSETTS

License Revoked.—The state board of registration in medicine at a meeting, May 24, revoked the registration of Dr. Everett D. Hooper, Boston, after a hearing on evidence of his having made an agreement to perform a criminal abortion.

Personal.—Dr. Douglas A. Thom, Boston, director, division of mental hygiene, Massachusetts Department of Mental Diseases, has been awarded a medal by *Children, the Magazine for Parents*, for his book for parents, "Everyday Problems of the Everyday Child."

Hospital News.—The state legislature has made an appropriation of $1,500,000 for a new mental hospital at Waltham, near Boston.——The Robert Breck Brigham Hospital, Boston, is conducting a drive for $600,000.——Mr. and Mrs. Alfred H. Colby, Melrose, have given $125,000 to the Melrose Hospital for a new wing.

Gift for Clinic for Chronic Disease.—The New England Deaconess Hospital Association announced, June 9, a gift of $250,000 by George F. Baker to establish a clinic for chronic disease at the Deaconess Hospitals, Boston, which will provide forty beds for patients. The terms provide that the director of the clinic is to be appointed after consultation with the Medical School of Harvard University. This is the first step in securing $1,000,000 to extend the usefulness of the Deaconess and Palmer Memorial hospitals.

Fellowships in Psychiatry Open.—Five Commonwealth Fund fellowships in psychiatry are open in the department of psychiatry of the Medical School of Harvard University with which the Boston Psychopathic Hospital is closely associated. These are available for workers who have shown evidence of good work in psychiatry who wish to prepare themselves for a career in that field. Each fellowship may be continued for three years, but continuation will depend on the excellence of work done. Fellows will have available the clinical and laboratory facilities of this hospital and other institutions, and opportunities for special work in school, industry and the general social field; study in a foreign clinic for a time might also be recommended. Applications with details as to previous training may be sent to Dr. Charles Macfie Campbell, Boston Psychopathic Hospital, 74 Fenwood Road, Boston.

MICHIGAN

Personal.—Grace Lubin, Ph.D., will succeed Reuben L. Kahn, Sc.D., as director in charge of the serologic work of the laboratories of the Michigan State Department of Health at Lansing, when Dr. Kahn's resignation becomes effective, August 1. Dr. Kahn has been appointed director of the University Hospital laboratory at Ann Arbor.——Dr. Herman Ostrander completed forty years' service with the Kalamazoo State Hospital, June 4; he has been superintendent about ten years.

Society News.—At the April 19 meeting of the Lenawee County Medical Society, Adrian, Dr. James E. Davis, Detroit, gave an address on "Inflammation of the Kidney"; Dr. Herbert E. Randall, Flint, president of the state medical society, and Dr. James D. Bruce, Ann Arbor, councilor, talked about medical organization work.——Dr. Paul B. Magnuson, Chicago, addressed the Kalamazoo Academy of Medicine, April 17, on

V 90
1928

old ununited fractures of the femur.——Dr. Clarence W. Hopkins, Chicago, addressed the Marquette-Alger County Medical Society, Ishpeming, April 17, on fractures.——Wexford County is to have a full-time health department consisting of a health officer, two public health nurses and an office assistant. It is to be a combined department for both the city and county and is expected to be in operation in the courthouse by the time school opens in the fall. The Wexford County Medical Society sponsored the unit.——Dr. William Fowler has been elected president of the Detroit Oto-Laryngological Society for the ensuing year.

MISSOURI

Society News.—Dr. Harry R. Wahl, Kansas City, addressed the Kansas State Laboratory Association, Wichita, May 2, on "Laboratory Problems."——Dr. Herman A. La Force, Carthage, addressed the Jasper County Medical Society, April 10, on "Symptoms of the Menopause."——A farewell dinner was given in honor of Dr. Allan J. McLaughlin, June 19, by the Boutwell Post number 136 of the American Legion in St. Louis. Dr. McLaughlin, having completed four years' service with the U. S. Public Health Service, is due for transfer about July 1.

St. Louis Claims Typhoid Record Among Large Cities.—For the fiscal year ending April 10, the mortality rate in St. Louis was 12.9 per thousand, according to the report of the city health commissioner as published in the St. Louis *Globe-Democrat*. A lower mortality rate has never been recorded in that city except in 1922, when it was 12. The infant mortality rate for the fiscal year was 56 per thousand living births reported, as compared with 73.1 in the previous year. The diphtheria death rate in St. Louis was 8.5; the typhoid death rate, 1.99 per hundred thousand of population, is said to be the lowest among the large cities of the country. St. Louis claims to have the lowest death rate from pneumonia also—76.8 per hundred thousand population. The tuberculosis death rate was 82. Heart disease, the health commissioner reported, increased in 1927 and was the leading single cause of death. The birth rate was 18.5 per thousand persons. There were only sixty-seven cases of smallpox with no deaths during the year. The total expenditure of the health department was $409,000, or 48 cents per capita.

NEBRASKA

State Medical Election.—At the annual meeting of the Nebraska State Medical Association, Hastings, May 15-17, Dr. Frank S. Owen, Omaha, was elected president-elect; Dr. Benjamin R. McGrath, Grand Island, president; Drs. Edward L. Brush, Norfolk, and William R. Boyer, Pawnee City, vice presidents, and Dr. Roy W. Fouts, Omaha, delegate to the American Medical Association. The registration numbered 315. The next meeting will be held in Omaha in May, 1929.

NEW JERSEY

Hospital News.—At the fourth annual convention of the New Jersey Hospital Association, Atlantic City, May 25, a resolution was adopted which makes $4 a day a minimum charge for all hospitals in the state for cases of injury coming under the workmen's compensation act.

State Medical Election.—At the annual meeting of the Medical Society of New Jersey, Atlantic City, June 5-9, Dr. Ephraim R. Mulford, Burlington, was elected president; Drs. Andrew F. McBride, Paterson, George N. J. Sommer, Trenton, and John F. Hagerty, Newark, vice presidents; Dr. William J. Carrington, Atlantic City, corresponding secretary; Dr. John Bennett Morrison, Newark, recording secretary, and Dr. Elias J. Marsh, Paterson, treasurer.

Osteopath Cannot Be Appointed School Physician.—The state commissioner of education ruled, May 2, that a board of education cannot appoint an osteopath as a school medical inspector, as an osteopath is not a competent physician within the meaning of the school law. The ruling was made on the appeal of Osteopath James E. Chastney, who was relieved by the board of education of Hasbrouck Heights, February 8, following a ruling on the appeal of a taxpayer, who contested the validity of the local board's action in appointing an osteopath.

Society News.—The New Jersey Pharmaceutical Association held its annual convention on June 12 at the Hotel Chelsea, Atlantic City.——Four reels of motion pictures illustrating obstetrics were shown before the Atlantic County Medical Society, Atlantic City, May 11, by Dr. Clifford B. Lull of Jefferson Medical College, Philadelphia.——Dr. Orrin Sage Wightman, New York, addressed the Bergen County Medical Society, May 8, on "Syphilis of the Circulatory System," and Dr. Edward L. Hunt, New York, presented two films of neurologic subjects which were made by Dr. Wightman.——The Passaic County Medical Society was addressed, May 10, by Dr. Harry S. Willard, Paterson, on "Early Management of Convergent Strabismus," and by Dr. Benjamin F. Royer of the American Society for the Prevention of Blindness on "Sight Saving."

NEW YORK

Albany's Plan to Improve Rural Medical Service.—Albany Medical College, Albany, is endeavoring to raise an endowment of $2,000,000, primarily for the purpose of training physicians for the rural communities of New York State, of enabling practicing physicians better to obtain graduate work and of placing the college on a secure financial basis. The college has a five-point program to meet the needs of the rural districts: (1) to give preference in the selection of medical students to those whose affiliations are in its district; (2) to train students primarily for general practice and properly fit them at moderate cost; (3) to provide its graduates and other hospital interns with information concerning locations where physicians are needed and other opportunities; (4) to cooperate with graduates and other physicians in the large district served by the college, giving them an opportunity to take graduate work, review and advanced courses and special work in all departments in the school, and (5) to inform rural communities by suitable publicity of the advantages of employing the local physician.

To advance the campaign for funds, an illustrated booklet, "On the Firing Line of Medicine," is being distributed. It is stated that the number of country physicians in New York State between 1916 and 1921 fell off 20.6 per cent, and by 1921 more than eighty communities appealed to the state department of health to help them obtain a physician. A survey in 1923 revealed that the average age of 50 per cent of the nonurban physicians in Albany, Greene, Schoharie and Rensselaer counties was more than 60 years. The great proportion of the 1,300 living alumni of Albany Medical College are practicing in 233 small towns and rural communities and in only fifty large towns and cities, and of the 1,329 physicians serving in the Albany district from the lower Hudson Valley to the Canadian border, 51 per cent are graduates of Albany Medical College.

The funds sought are to be used as follows: $400,000 to endow a department of regional extension of medical education; $500,000 for the endowment of graduate work by enlarging the present departments, and $1,100,000 to support present work which is now financed by annual gifts. The state commissioner of health has endorsed the Albany project as essential to the maintenance and betterment of health conditions in northeastern New York. Albany Medical College was founded nearly a hundred years ago. Its equipment is ample for the study of modern medical problems. It has a new six story building joined to the 600 bed Albany Hospital, which also has been remodeled and enlarged. Teaching is carried on in cooperation with the Anthony N. Brady Maternity Hospital, the Child's Hospital, St. Margaret's House and Hospital for Infants, the Samaritan Hospital of Troy, the Albany Guild for Public Health Nursing, the Industrial Emergency Hospital of the General Electric Company and the Ellis Hospital, Schenectady, where that company sends its serious emergency cases (THE JOURNAL, April 9, 1927, p. 1188).

New York City

Health Commissioner Arrested—Considers It An Honor.—Dr. Louis I. Harris, city health commissioner, was arrested, June 7, on a civil warrant in a suit brought by Attorney Max Rothenberg for $250,000 for defamation of character. Dr. Harris posted a $1,000 bond and was released. The suit seems to have grown out of the milk investigation, conducted with the assistance of the health commissioner, some phase of which led to the arrest of Mr. Rothenberg, who was attorney for a milk dealer, last March. According to the New York *Times*, Magistrate Simpson discharged Mr. Rothenberg in April, saying that there was no basis in fact or law or reasonable or probable cause for the charges made against him. Mr. Rothenberg alleges that as a result of the arrest his character, reputation and professional standing have suffered. Dr. Harris is quoted as saying:

> Ever since it devolved upon me to expose the milk scandals and to carry on a house cleaning which has resulted in the dismissal of more than fifty health department employees in certain criminal prosecutions, and in the revocation of many permits held by milk dealers for practices dangerous to the public health, I have been almost continuously subjected to petty attempts to harass and annoy me, so that this latest attempt to embarrass me does not surprise or disturb me in the least. . . . I consider it an honor to be arrested in this suit.

Report on Cornell Pay Clinic.—The medical Society of the County of New York voted, May 28, to accept the report of a special committee on dispensaries on the Cornell Pay

Clinic. The report was made only after numerous meetings. *New York Medical Week* divides the report into arguments in favor of the clinic, arguments against the clinic and the conclusions. Arguments in favor of the clinic were: 1. Among physicians attending persons in moderate or lower economic groups there are many who are not furnishing the best type of medical service, especially from the point of view of thorough physical examination and careful diagnostic study. The clinic has met a definite need in caring for people in these groups. 2. These persons cannot afford to pay the usual fees charged by the average specialists or consultants. They are not eligible for admission to the free dispensary or clinic nor would they without loss of respect be willing to accept medical care without charge in such institutions. These persons, however, can and do go to a clinic without loss of respect when they can pay for medical services. By accepting such moderate fees from patients the clinic is able to give to them medical service of a quality that they could not otherwise obtain. 3. The clinic is a financial benefit to physicians in that one third of the approximate $300,000 collected during the year is paid out to the profession in salaries. 4. Many patients become dissatisfied with their physicians and many turn to the Cornell Pay Clinic for aid. In this way, the clinic performs a public benefit, for thereby the patients are kept away from medical quacks. Many patients are also actually being convinced that their private physician is honest and competent and are being sent back to him with their confidence in him restored. 5. More than 4,000 physicians within the metropolitan area have used the clinic for diagnostic service in addition to an undetermined number who have referred patients for treatment. The clinic has carefully guarded the interest of these physicians and has referred the cases back to them after the diagnosis was made.

Among the criticisms of the clinic expressed by the committee were: 1. The clinic charges an average fee of $2.41 per visit per patient, according to its report of 1927; at times the charges for diagnosis amount to $40. Charging such fees is against the spirit of the present dispensary law which was passed for the aid of the indigent poor. 2. The public has the impression that it will be under the care of Cornell professors, whereas those of professorial rank have little to do with the clinic. The vast majority are young men of no great maturity, and are of the same caliber as the men who work in the usual dispensary. 3. Less than 20 per cent of the work of the clinic is diagnostic, many patients presenting themselves without medical reference and often without the need of a diagnostic study. 4. As an endowed tax-exempt institution, the clinic enters into unfair competition with the practitioner. Its clientele consists of persons of moderate means from whom the average physician's income is derived. The motive of the college is to teach young men to practice among the very class with which the institution competes. 5. It is easy to understand that an extension of the pay clinic to a few of the large institutions in this city would make serious inroad on the living of the practitioners without benefiting the community, if not doing actual harm. This would lead to socialization of medicine whereby the physicians would be put in the status of employees and be at the whim of the directors of these institutions for their livelihood.

The following resolution was adopted:

That the Medical Society of the County of New York, having heard the Report of the Committee on Dispensaries in regard to the Cornell Pay Clinic, approves the findings of said committee and the continuation of the Cornell Pay Clinic as a teaching clinic and a group diagnostic clinic for persons of moderate means who are referred to the clinic by their family physicians.

That the Medical Society of the County of New York looks with disfavor upon the competition into which the Cornell Pay Clinic enters with the Medical Profession by continuing to function as a clinic where treatment is given;

That the Medical Society of the County of New York looks with disfavor upon the establishment of pay treatment clinics in general as unfair competition with the medical profession and an encroachment upon the field of the practicing physician; and finally

That the Medical Society of the County of New York refers to its Counsel the question of the general laws governing the Cornell Pay Clinic and other pay clinics which are operating under the present Dispensary Law and that Counsel be directed to make a report to the Comitia Minora on same.

OHIO

Personal.—Dr. Porter J. Crawford, Troy, has resigned as city and county health officer and has accepted an appointment with the International Health Board of the Rockefeller Foundation to go to Brazil. Dr. Crawford and his family expect to sail about July 1.——Dr. George W. Crile, Cleveland, will be awarded the honorary degree of doctor of laws by the University of Glasgow, June 20.

Rabies Is Reported Widespread.—The state department of health considers that rabies is an actual menace in Ohio and is widespread. There had been four human cases this year up to June 1, one in Findlay and one each in Monroe, Morgan and Fulton counties. An unusual feature of three of these cases, according to *Ohio Health News*, is that the bites occurred from 150 days to more than a year prior to death. One patient was started on antirabic treatment within a week; he took fourteen daily doses but died 174 days after being scratched on the finger by a rabid dog's tooth. The department emphasizes again that rabies is not a hot weather disease as is popularly believed, but may occur at any time of the year. In the last five years in Ohio, twenty human deaths from rabies have occurred in the cool or cold months and seventeen in the warm or hot days. The department of health repeats its request to health commissioners and physicians, generally, to notify it by wire at the earliest appearance of a case of human rabies so that a representative may see the case.

Society News.—The Mahoning County Medical Society held a graduate day at Youngstown, June 8, the program being offered by members of the faculty of the graduate school of the University of Pennsylvania. A $5 fee was charged for the all-day program, including the evening dinner.——A joint meeting of the Southern Interurban Clinical Club and the New York, Pennsylvania and Ohio Interurban Clinical Club was held in Cleveland, May 4-5, with programs at various hospitals and visits to the university.——Dr. Frank Harnden, medical director, Midland Mutual Life Insurance Company, Columbus, addressed the Columbus Academy of Medicine, June 4, on "The Medical Economics of Life Insurance."——The Ottawa Kiwanis Club, Ottawa, sponsored a tonsil and adenoid clinic, June 8, in the local court house, where children of parents unable to pay a private physician were operated on. The Kiwanis Club has sponsored this work for about five years, and during the year conducts benefits to provide the funds.

PENNSYLVANIA

Personal.—Dr. William E. Delaney, Jr., Williamsport, has been appointed surgeon to the New York Central Railroad, succeeding the late Dr. Millard L. Raemore.——Dr. Charles J. Zinn has been appointed chief resident physician to the Reading Hospital, Reading, for the coming year.

Society News.—A summer camp for twenty-five underweight and undernourished children will be conducted by the Indiana County Tuberculosis Society at Stevens Farm near Dilltown for eight weeks, beginning July 2. One child from each township and larger town will be selected.——The Northampton County Medical Society was addressed, June 15, by Dr. Thomas G. Simonton, Pittsburgh, president-elect of the Medical Society of the State of Pennsylvania, on "Pleurisy with Effusion and Referred Chest Pains."

Philadelphia

Society News.—Dr. James M. Anders gave the graduation address, June 6, at the Women's Medical College of Pennsylvania commencement; eleven graduates received diplomas.——The Ex-Internes Association of Jefferson Medical College Hospital held a banquet, May 30, which was attended by 115 out of a total of 266 living ex-interns. Dr. Harold W. Jones was elected president for the ensuing year.

Personal.—A dinner was given at the Philadelphia College of Pharmacy and Science, May 7, to celebrate the birthday of Charles H. LaWall, Ph.D., who has been connected with the school for many years. A bust of the guest of honor was presented to the board of trustees.——Dr. James M. Alesbury has been elected president of the Alumni Association of Temple University School of Medicine.

Hospital News.—The Tri-State Medical Conference (New York, Pennsylvania, New Jersey) met, June 2, at the home of the Philadelphia County Medical Society. Dr. Arthur C. Morgan, president of the Medical Society of the State of Pennsylvania, presided. Dr. Irvin D. Metzger, Pittsburgh, president of the state board of medical examiners, read a paper on "Administering Medical Laws," which was followed by a general discussion and a luncheon.——An appeal is to be made to the public shortly for $200,000 for the erection of a nurses' home for Mercy Hospital.——The new wing of the Memorial Hospital, Roxboro, was dedicated, June 13, which date was also the thirty-eighth anniversary of the founding of the hospital.

TENNESSEE

Health at Nashville.—Telegraphic reports to the U. S. Department of Commerce from sixty-seven cities with a total population of about 30 million, for the week ending June 2, indicate that the highest mortality rate (25.3) was for Nashville, and that the mortality rate for the group of cities as a whole was 13.3. The mortality rate for Nashville for the cor-

V 90
1928

responding period last year was 18.2, and for the group of cities, 11.8.

Dr. Leathers Appointed Dean at Vanderbilt.—The board of trustees of Vanderbilt University, Nashville, June 12, appointed Dr. Waller S. Leathers, professor of preventive medicine, dean of the medical school to succeed Dr. G. Canby Robinson, who resigned to become director of the medical center to be erected in New York by Cornell University and New York Hospital. For about a year Dr. Leathers has been associate dean of the medical school. He came to Vanderbilt in 1924 from the University of Mississippi, where he was dean of the school of medicine and executive officer of the state board of health.

Meharry College Considers Moving.—The president of Meharry Medical College, Dr. John J. Mullowney, announced, May 23, following a meeting of the board of trustees, tentative plans for moving the school to a newly acquired site in the vicinity of Fiske University in northwest Nashville. The boards of trustees of the two institutions have agreed that Meharry should not in any sense merge with the university, but continue to maintain its own identity and have its own board of trustees. The change of site, however, would permit an economical cooperation. The plans as yet are in the formative stage. Dr. Mullowney said that the medical school had just completed a successful year, with all classes filled to capacity. The George W. Hubbard Hospital associated with the school treated 1,928 patients in the hospital and nearly 15,000 in the allied dispensaries. It recently added a new service in the form of a chest clinic in charge of Dr. William A. Beck.

TEXAS

Society News.—The El Paso County Medical Society was addressed, April 2, by Maury Kemp on "Outline of the Basis of Medical Jurisprudence"; a paper by Dr. Thomas J. McCamant was read by Dr. Samuel D. Swoppe.——The Harris County Medical Society was addressed, recently, by Dr. Maurice C. Pincoffs, Baltimore, on "Pneumonia."——Dr. St. Julien R. Murchison, Fort Worth, addressed the Tarrant County Medical Society, April 3, on "Cystitis," and Dr. Duane Meredith, Wichita Falls, on an endocrine treatment of tuberculosis with report of cases.——The Panhandle District Medical Society met at Amarillo, April 10; about 150 physicians attended. Among others, Dr. Truman C. Terrell, Forth Worth, spoke on "A Complement Fixation Test for Pellagra"; Dr. Claude J. Hunt, Kansas City, on thyroid diseases, and Dr. Verne C. Hunt, Rochester, Minn., on "Management of Benign Prostatic Obstruction." Dr. Abraham F. Lumpkin, Amarillo, was made president elect; the next meeting will be in Memphis, October 9-10.

GENERAL

Congress Grants Year's Pay to Surgeon's Widow.—A bill to award the widow of the late Surg. Mervin W. Glover, U. S. Public Health Service, the amount of his salary for one year ($4,725) was passed by Congress. Surgeon Glover, in 1914, while on duty on board ship was struck on the head by a cargo hook and later developed a brain tumor from which he died in 1923, leaving a widow and three children who relied on him for support.

New Hospital Superintendents.—The following physicians have recently been appointed superintendents of the hospitals indicated:

Dr. Broadstreet Henry Mason, Waterbury Hospital, Waterbury, Conn.
Dr. Elijah S. Burdsall, Norwich State Hospital, Norwich, Conn.
Dr. George Williams, Southern Idaho Mental Hospital, Blackfoot, Idaho.
Dr. Sheldon Stringer, Tampa Municipal Hospital, Tampa, Fla.
Dr. T. Restin Heath, Bethany Hospital, Kansas City, Kan.
Dr. O. R. Lynch, Logansport State Hospital, Logansport, Ind.
Dr. John A. Rayburn, Natchez Charity Hospital, Natchez, Miss.
Dr. Herman Schwatt, Sanatorium of the Jewish Consumptives' Relief Society, Sanatorium, Colo.
Dr. Garnet P. Smith, Bristol County Tuberculosis Hospital, Attleboro, Mass.
Dr. Michael A. Cunningham, Holy Cross Sanatorium, Deming, N. M.
Dr. George C. Lee, Kansas City Tuberculosis Sanatorium, Leeds, Mo.
Dr. Charles Johnstone, Colver Hospital, Colver, Pa.
Dr. John W. Speck, Michigan State Prison Hospital, Jackson, Mich.
Dr. Edgar L. Sanderson, Shreveport Charity Hospital, Shreveport, La.
Dr. John W. MacIntosh, Falconwood Hospital, Charlottetown, P. E. I., Canada.

Society News.—Miss S. Lillian Clayton, Philadelphia, was reelected president of the American Nurses Association, and Mrs. Anne L. Hansen, Buffalo, was reelected president of the National Organization of Public Health Nursing at the biennial convention in Louisville, June 8; the next biennial convention will be in Milwaukee in 1930.——The American Federation of Organizations for the Hard of Hearing held its ninth annual meeting, St. Louis, June 17-22, under the presidency of Dr. Horace Newhart, Minneapolis. In addition to many scientific discussions by physicians, there was a business meeting; zone luncheons in charge of the vice presidents; a luncheon for otologists given by the St. Louis Ear, Nose and Throat Club; an elimination contest for the national lip reading tournament; demonstrations given by teachers and pupils, and an open meeting addressed by Knight Dunlap, Ph.D., of the National Research Council; President Newhart; Dr. Roy H. Gilpatrick, Boston; Dr. Austin A. Hayden, Chicago; Miss Annetta W. Peck, and Dr. Max A. Goldstein, St. Louis.——At the second annual convention of the Jewish Academy of Arts and Sciences, New York, June 9-10, Dr. Henry Keller, New York, was reelected president; Prof. Nathan Isaacs, Ph.D., of Harvard University, Boston, and Moses Hyamson, New York, vice presidents, and Shelly R. Safir, Ph.D., New York, secretary.—— At the annual meeting of the American Psychiatric Association, Minneapolis, June 4-8, Dr. Samuel T. Orton, Columbus, Ohio, was elected president; Dr. Earl D. Bond, Philadelphia, vice president, and Dr. Clarence O. Cheney, Poughkeepsie, N. Y., secretary. The next annual session will be at Atlanta, Ga., in 1929; in 1930 the association will meet in conjunction with the first International Congress of Mental Hygiene, at Washington, D. C.——For the first time in eight years, the American Red Cross will not hold an annual convention this year. The next meeting will be April 22, 1929, at Washington, D. C. —— Dr. Matthias Nicoll, Jr., New York State Commissioner of Health, was elected president of the State and Provincial Health Authorities of North America at the annual meeting in Minneapolis, June 9.

Committee on Research in Syphilis Organized.—A group of public spirited laymen invited a group of syphilologists and investigators to meet at the Hotel Plaza, New York, March 10-11, to organize the Committee on Research in Syphilis, Inc. The announcement states that while the importance of syphilis is well known to the medical profession, large funds for the systematic study of the disease have been difficult to obtain. The Committee on Research in Syphilis will distribute annually through its subcommittees the funds made available by the group of donors to subsidize and develop research in the clinical and laboratory aspects of the disease. The committee will expend the funds placed at its disposal in developing a constructive program of research with planned activities and selected cooperators. There will be for the present no investment in plant. The actual business of the group will be divided between the finance committee, including the donors, and an executive committee of seven physicians with Dr. Edward L. Keyes, New York, chairman. The scientific committee also comprises seven members with Dr. John H. Stokes, Philadelphia, chairman. This committee may call experts in special fields of syphilology to meet with the committee in conference on questions of general policy, and expenditures on which the final decision, however, rests with the executive committee. Persons interested in any aspect of syphilology are invited to send to the chairman of the scientific committee suggestions as to problems to be undertaken together with the names and records of investigators of promise. Applications for grants should be addressed to Dr. Stokes, chairman, scientific committee, 3800 Chestnut Street, Philadelphia, stating whether the problem to be undertaken is of a clinical or laboratory character or combination of the two. The scientific and medical members of the committee form the general advisory committee which has an initial membership of twenty-five. Dr. Stokes is chairman of the general advisory committee also and Dr. William J. M. A. Maloney, room 1545, 370 Seventh Avenue, New York, the secretary.

LATIN AMERICA

Yellow Fever in Rio de Janeiro.—The Associated Press, June 5, stated that isolated cases of yellow fever had been reported in Rio de Janeiro, but that there is no fear of an epidemic. Mosquitoes are said to be more plentiful as a result of a let-up in the antimosquito campaign.

Second Peruvian Medical Congress.—The Peruvian Medical Circle and the department of health are organizing the second national medical congress to be held in Arequipa, November 11-16; Mr. August B. Lequia, president of the republic, will be honorary president. Dr. Edmundo Escomel has been appointed chairman of the committee. Four sections have been created: medicine, surgery, odontology and pharmacy. Foreign scientists will be invited. The congress will conform to the following program: "Health Legislation in Peru," "Standardization of Hospitals," "Syndicalism and Deontology," "Tuberculosis in Peru," "Malaria in Peru," and "Infant Mortality and Ways to Combat It."

Government Services

Navy Personals

Lieut. (j. g.) Frank M. Townsend, Jr., attached to the fifth regiment of marines in Nicaragua, has tendered his resignation. Comdr. Ernest W. Brown, Edgewood, Md., has been assigned to temporary duty for a course of postgraduate instruction at the New York Post-Graduate Medical School and Hospital. Comdr. Carroll R. Baker has been assigned to duty in attendance on a course of instruction at the Graduate School of the University of Pennsylvania, Philadelphia. Comdr. William E. Eaton has been transferred from the U. S. S. *Florida* to the bureau of medicine and surgery, navy department, Washington, D. C. Lieut. Charles W. Robles has been transferred from the navy yard, Charleston, S. C., to duty in attendance on a course of instruction at the New York Post-Graduate Medical School and Hospital. Capt. Samuel S. Rodman, from duty as aide on staff of commander, scouting fleet, and additional duty as fleet surgeon, has been transferred to the naval air station, Pensacola, Fla. Capt. Joseph P. Traynor was placed on the retired list, June 10. The following lieutenants (j. g.) have resigned: Fred H. Hartshorn, Robert Krohn and Charles B. Congdon. Capt. David C. Cather has been ordered from the bureau of medicine and surgery, navy department, Washington, D. C., to the submarine base, Coco Solo, Canal Zone, as the relief of Capt. C. G. Smith.

More Officers Apply for Summer Training Than Can Be Accommodated

About 6,413 officers and men of medical units will receive training at camps which will operate throughout the country during the next four months. There will be twenty-one camps for medical specialists commissioned as reserve officers in the army; sixteen camps for the national guard, and five camps for the reserve officers training corps. Many of the leading physicians of the country will be in these camps. The early camps will be for basic instruction in the technic of the smaller units and in military tactics. The July and August camps will be devoted to unit instruction and tactical problems of medical regiments. The September camps will be for medical executives and commanding officers and executives of the general hospital and the evacuation units, and they will be at Carlisle Barracks, Pennsylvania, Fort Sam Houston, Texas, and the Presidio of San Francisco. The national guard and reserve officers training camps will be devoted to instruction of medical units in relation to line troops in action. There will be about 20 per cent more reserve officers in training this year than last year. Applications for training have greatly exceeded the number that can be accommodated with the funds provided. The surgeon general and the corps area commanders have selected those who have indicated the greatest interest in their military obligations through correspondence courses and local conferences. Preference, however, is being given to officers who have not had active duty training in recent years but who have carried on correspondence courses. In some places, nearly three times as many officers applied for training as the funds permit to go. There are at present 19,863 officers in the medical branch of the organized reserves; of these 11,759 are in the medical reserve; 504 in the sanitary corps; 1,870 in the medical administrative section; 4,661 in the dental reserve, and 1,069 in the veterinary reserve.

U. S. Public Health Service

Surg. James P. Leake has been directed to proceed to London, England, and return to Washington, D. C., to confer with the surgeon general and the British committee on the health aspects of the control of tetra-ethyl lead gasoline. Surg. Randolph M. Grimm has been relieved from duty at Antwerp, Belgium, and assigned to the American Consulate, Dublin, Irish Free State. Surg. Clarence H. Waring has been relieved from duty at the hygienic laboratory, Washington, D. C., and assigned to the American Consulate, Antwerp, Belgium. Asst. Surg. A. E. Russell has been relieved from duty at Washington, D. C., and assigned to the office of industrial hygiene and sanitation, Niagara Falls, N. Y. Surg. T. J. Liddell has been relieved from duty at Stockholm and assigned to the American Consulate, Berlin, Germany. Passed Asst. Surg. G. J. Van Beeck has been relieved from duty at Ellis Island, N. Y., and assigned to the American Consulate, Stockholm. Asst. Surg. A. S. Rumreich has been relieved from duty at the hygienic laboratory, Washington, D. C., and assigned to duty at Rolla, Mo., in connection with the investigation of trachoma. Surg. William F. Tanner has been relieved from duty at Hamburg, Germany, and assigned to duty at U. S Marine Hospital, Stapleton, N. Y., and Asst. Surg. Everett B. Archer has been relieved from duty at the hygienic laboratory, Washington, D. C., and assigned to Hamburg, Germany. Surg. Roy P. Sandidge has been relieved from duty at Berlin and assigned to duty at Cologne, Germany, and Surg. Charles M. Fauntleroy has been relieved from duty at Cologne and assigned to duty at Goteborg, Sweden. Surg. James E. Faris has been relieved from duty at Goteborg and assigned to duty at Genoa, Italy. Surg. Lon O. Weldon has been relieved from duty at Genoa and directed to proceed to Ellis Island, N. Y., for duty. Asst. Surg. Raymond A. Vonderlehr has been relieved from duty at Cobh, Irish Free State, and assigned to duty at Dublin, and Passed Asst. Surg. Le Grand B. Byington has been relieved from duty at Dublin and assigned to duty at Cobh.

Changes in Veterans' Bureau Personnel

The following changes are noted in the June *U. S. Veterans' Bureau Bulletin:*

HOSPITALS

Dr. Jesse L. Adams, Jr., resigned, central office.
Dr. Chester D. Allen transferred from Memphis, Tenn., to central office.
Dr. Buell L. Ashmore transferred from Augusta, Ga., to Northport, Long Island.
Dr. Henry W. Barrier transferred from Sheridan, Wyo., to Edward Hines, Jr., Hospital.
Dr. Howard Carter resigned at Jefferson Barracks, Missouri.
Dr. Eugene Davis transferred from Algiers, La., to Memphis, Tenn.
Dr. Charles M. Fullenwider resigned at Muskogee, Okla.
Dr. Floyd Grave transferred from Minneapolis to Fort Snelling, Minnesota.
Dr. William O. Hearn transferred from Minneapolis (Asbury) to Fort Snelling, Minnesota.
Dr. Alexander Joswich transferred from Minneapolis (Asbury) to Fort Snelling, Minnesota.
Dr. James E. Keirans appointed at Northampton, Mass.
Dr. M. H. Langill appointed at Rutland Heights, Mass.
Dr. Frank E. Mason transferred from Oteen, N. C., to Northampton, Mass.
Dr. Arthur M. Master resigned at Bronx, N. Y.
Dr. Tyrell G. McDougall appointed at Edward Hines, Jr., Hospital, Maywood, Ill.
Dr. Hiram O. Barker transferred from Alexandria, La., to central office.
Dr. Hugo Mella transferred from central office to Northport, Long Island.
Dr. George L. Mosby reinstated at Edward Hines, Jr., Hospital.
Dr. Thomas F. Neil transferred from Excelsior Spring, Mo., to Edward Hines, Jr., Hospital.
Dr. Joseph G. Noble transferred from Minneapolis (Asbury) to Fort Snelling, Minnesota.
Dr. John G. Rea transferred from Newark, N. J., to Northport, Long Island.
Dr. William J. Roberts transferred from Minneapolis (Asbury) to Fort Snelling, Minnesota.
Dr. Anton P. Schier appointed at Perry Point, Md.
Dr. Herbert H. Schoenfeld resigned at Washington, D. C.
Dr. William B. Talbot resigned at Bronx, N. Y.
Dr. Milton K. Thompson appointed at Muskogee, Okla.
Dr. Henry W. Tobias transferred from Alexander, La., to Excelsior Springs, Mo.
Dr. Thomas Wells appointed at Edward Hines, Jr., Hospital.

REGIONAL OFFICES

Dr. James F. Bowen resigned at Albany, N. Y.
Col. Harold L. Hickey resigned at Denver.
Dr. Virgil G. Hursey resigned at Chicago.
Dr. William E. Kendall resigned at Chicago.
Dr. Earl K. Lazenby resigned at Charlotte, N. C.
Dr. Thomas M. Leahy resigned at Chicago.
Dr. Frederick P. Moore resigned at Boston.
Dr. Harry A. Myers transferred to central office from Fargo, N. D.
Dr. Abraham Orenstein resigned at New York.
Dr. Campbell Sansing transferred from Dallas, Texas, to Fargo, N. D.

Field Service School Graduation

The ninth basic course for medical, dental, veterinary and administrative corps officers of the regular army given at the field service school at Carlisle Barracks, was completed, May 31. The graduation exercises which were held outdoors, were preceded by a review. Col. Hans Zinsser, medical reserve corps, professor of bacteriology and immunology, Harvard University Medical School, Boston, gave the address. Diplomas were presented to forty-six officers. The Skinner medal for the highest standing in the class was presented to Capt. Don Longfellow of the medical corps by the commandant of the school, Col. Charles R. Reynolds. The course this year culminated in a five day field exercise, illustrating the employment of the medical regiment in combat.

The course in public health practice offered at the field service school was also recently concluded. Among the students taking this course were eleven Pennsylvania State Health Department officers and eleven borough officers. The legislature at its last session passed a law requiring all borough and first class township officers to be trained or to have experience in public health procedures before entering on their duties.

V 90
1928

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 26, 1928.

British Medical Schools and American Osteopathic "Colleges" Compared

The osteopaths in this country are constantly claiming that they are educated in a similar manner to physicians both in this country and in America and make a point of the fact that in the latter they are recognized by the state. They have endeavored to obtain recognition here, so far without success. In a letter to the *Daily Telegraph*, Dr. Graham Little, dermatologist and member of parliament for London University, exposes the pretense that American osteopathic "colleges" teach the medical sciences on the same lines as they are taught in British medical schools. He says that osteopathy, and still more its offspring chiropractic, constitute an attempt to get into medicine by short cuts and that the training of these persons, who pose as "Doctors of Osteopathy" or "D.O.'s," cannot compare with the training exacted by British universities. He gives the following comparative table:

British Schools	Osteopathic "Colleges"
Average period of training for Doctorate of Medicine, seven to eight years.	Maximum period (as claimed) of training for "Doctor of Osteopathy," four years.
Schools connected with large hospitals, offering wide general clinical experience.	"Colleges" unconnected with hospitals, offering no general clinical experience.
Teachers selected by competition, specialists in their respective branches, enjoying international reputation.	Dud teachers, unknown outside their classrooms. No specialists.
Examinations for degree by independent outside examiners. Rejections frequent. Standard checked by independent and disinterested supervising body, the General Medical Council.	"Degrees" given by each individual "college" to its own pupils. Degree-giving a mere commercial business, as automatic as a slot machine. No rejections. No independent disinterested supervision.

Sir Arthur Keith and Survival After Death

Sir Arthur Keith has described the publication of Darwin's Origin of Species as a bombshell for the world of that day, and his own pronouncements have proved—quite unintentionally, for he is one of the kindliest and most unaggressive of men—the same for the public of today. There was first his presidential address to the British Association in which he maintained that Darwin's theory of the evolution of man was on a firmer foundation than ever, just at a time when some orthodox people were deriving consolation from the doubts raised in scientific circles as to the efficacy of natural selection and other matters in the mechanism of evolution. Sir Arthur Keith has just delivered the Ludwig Mond lecture at Manchester University on "The Implications of Darwinism" in which he said: "Scientific and medical men agree that there is no evidence to support the assumption that the spirit survives after the brain has ceased to function." This, of course, has proved a greater bombshell for the orthodox public and has aroused a burning controversy in the lay press. Sir Arthur continued: "We can drug the brain so as to exalt the powers of certain parts, and deprive those of others, and thus alter the mental behavior of any man or woman. We can at will obliterate consciousness or exalt it. In short, the brain is a piece of living machinery. It consumes fuel and transmutes energy into feeling, thought and memory. If we withhold the supply of oxygen or fuel, the sources of its energy, the brain ceases to act just as certainly as a fire ceases to burn when its supply of fuel or air ceases. Physicians can find no grounds for believing that the brain is a dual organ—a compound of substance and spirit. Every fact known to them compels the inference that mind, spirit, soul are the manifestations of the living brain, just as the flame is the manifest spirit of a burning candle. At the moment of extinction, both flame and spirit cease to have separate existence. However much this mode of explaining man's mentality may run counter to long and deeply cherished beliefs, physicians cannot think otherwise if they are to believe the evidence of their senses. It is only when they accept the physiological interpretation of man's mentality that they can diagnose and understand the nature of man's mental ailments and take effective steps for the prevention and relief of disasters which overtake modern humanity."

The effect of this pronouncement has been a flood of letters in the press from clergymen and other religious persons, in which tribute is paid to Sir Arthur's eminence as a scientific man but he is told that while he knows all about the body he has no special competence to speak of things of the spirit. "The spirit cannot be found with the scalpel or in the laboratory." "The twentieth century has returned to belief in spirit, but he has gone back to the materialism of Tyndall and Huxley." A notable protagonist on the other side has come forward in the person of Sir Oliver Lodge, the physicist. He says in a press interview: "I am quite familiar with all that physicians and scientists have to say on the subject. It is a recognized view of physiologists that the spirit does not survive after the brain has ceased to function. They do not find any spirit in the brain by analyzing it, of course, and they have got a different opinion altogether from what I have on the function of the brain. I think the brain is an instrument used by the mind. They think the brain is the mind, apparently. The brain manifests the mind, but that is not the same thing as being the mind. A violin manifests Beethoven, but that is not the same thing as being Beethoven. I look at the mind like that. If you smash the instrument, the mind of course cannot manifest itself. They do not accept what evidence there is of the survival of the spirit. There certainly is some evidence, but they do not take the trouble to look at it from any other point of view because they think that the brain and the mind are the same thing."

Replying to Sir Oliver Lodge, Sir Arthur Keith says: "I have a very high regard for Sir Oliver Lodge. Without any doubt he has one of the most highly trained and efficient brains in the country. Any opinion he expresses, especially as regards the physical world, I listen to with the greatest respect. But he is not competent to speak about physiology first hand." Asked whether he had taken up a definite position that there is no life after death, Sir Arthur said: "No, I don't think that my view does entirely destroy the theory of immortality. It must be remembered that when we are investigating as scientists, religion and man's belief do not exist for us. We are out simply to discover and understand the human body in a sufficiently exact way to cure disease. All other things are just side issues with us."

An eminent theologian, Prof. H. M. Relton, D.D., accuses Sir Arthur of suffering from "a modern disease—mental departmentalism. One of its causes is overspecialization, which produces a kind of mental opacity which shuts out the light from other sources and so prevents a synoptic view of the whole truth. Most enlightened men of our day have emancipated themselves from an antiquated scientific dogmatism dating back to a bankrupt nineteenth century materialism. If the soul eludes Sir Arthur's researches, it may be because it can only spiritually be discovered, and in this case would it not be well for him to set no narrower bounds to knowledge than are open to the pure in heart?" An editorial in the *Evening Standard* makes the point that while we know much of the physical working of the brain in its physical relations we know nothing of the process which goes to the formation of thought. "While we cannot disprove Sir Arthur's thesis of a purely mechanical brain, he is quite unable to prove it. Still unknown (and perhaps ever unknowable), there remains that which may give us a quite different explanation. We do not, after all, yet know the secret of life."

PARIS

(From Our Regular Correspondent)

May 16, 1928.

The Danger of Arsphenamines in Syphilitic Persons with Tuberculosis

A communication from Dr. Marchand of Limoges, addressed to the Société médicale des hôpitaux de Paris, calls attention to an unexpected danger in the treatment by arsphenamines of persons with syphilis who harbor undetected tubercle bacilli. Marchand reports two personal cases. A young woman affected with a suspicious laryngitis, with a positive Wassermann test, was treated with neoarsphenamine. Following the first injections, the temperature rose to 39 and 40 C. Involvement of both pulmonary apexes occurred and the patient died in three months. A man, aged 30, with congenital syphilis probable, though the Wassermann test was uncértain, and without visible signs of tuberculosis, was treated by arsphenamines for nervous disorders. After the first injections, fever appeared, and, at the same time, lesions of both apexes, together with bacilli in the sputum. The treatment was interrupted, and the patient was sent to the country, where he died, four months later, completely cachectic. Considerable interest attaches to these two cases, for arsenicals are prescribed for the tuberculous by many physicians, at least for the purpose of retarding the phenomena of denutrition. But the doses of arsenic contained in the ordinary preparations—even in the cacodylates—are infinitely less than in an injection of from 0.30 to 0.90 cg. of arsphenamine. Marchand recommends that, before beginning treatment with arsphenamines, in any subject whatever, the physician should assure himself that the patient does not present any signs of bacillary infection, not even latent, and that, in order to obtain such assurance, he should employ all means at hand, including radiography and even the skin test, if such accidents as described are to be prevented. If the treatment provokes fever, precautionary measures should be doubled and the treatment should be interrupted in doubtful cases. Other agents, such as mercury or bismuth, which latter is harmless for the tuberculous, may be employed against syphilis, or the treatment may be postponed.

Proteinotherapy in Neuritis

Vaccine treatment in neuritis, as employed at present in Germany, by means of autolysates of cultures of the staphylococcus or of *Bacillus prodigiosus*, is being introduced in France by MM.. Delatre and Abramov. As the German vaccine is difficult to procure in France, the authors obtained the same autolysates by a simple and inexpensive method. They have prepared a product which does not provoke the same untoward reactions and which remains innocuous. An injection is applied every two days, or, in some instances, every four days. The improvement is manifest after from three to five treatments, and some complete cures are effected at the end of from sixteen to eighteen injections. In a series of fifteen acute or chronic patients, there were fourteen recoveries and one failure, according to a communication that the authors presented to the Société de médecine de Paris. In a case of diphtheritic paralysis, a complete cure was effected in four sittings. The cases in which this treatment was employed included widely diverse types of neuritis: traumatic, infectious, toxic. The good results are due less to the action of a microbic antigen than to the action of microbic proteins capable of producing a beneficent localized humoral shock.

The Action of Roentgen Rays on Micro-Organisms

Before the Academy of Sciences, MM. Lacassagne and Holweck gave recently an explanation of the variability of the action of roentgen rays on microbes. The fact is, roentgen rays do not, in themselves, exert any antiseptic effect. The effect, if such is produced, is due solely to secondary cathodic rays, which arise when the roentgen rays encounter atoms that reflect them, and here only certain atoms are concerned—then the effect is powerful; but the nature of these particular atoms, the existence of which appears certain to the authors, remains to be determined, and their understanding will, they think, open up to radiotherapy entirely new paths. It is not impossible that substances will be discovered with which it will suffice to impregnate the organism in order to obtain with roentgen rays the antiseptic effect desired.

The B C G Vaccine Before the Academy of Medicine

The controversy between Dr. Calmette and his critic M. Lignières, over the value and use of the B C G vaccine, extended to a third session of the Academy of Medicine. The Calmette vaccine emerged completely triumphant from the discussion. No proof was furnished by M. Lignières that the vaccine has ever produced lesions containing a transmissible bacillus. Calmette, who had previously reported the magnificent results secured in Norway through the B C G vaccination, referred to the more recent success recorded in Roumania, during the past two years, by Jean Cantacuzêne and Jonesco, in a series of 9,274 children vaccinated. In Bucharest, 65 per cent of the new-born were vaccinated, and in Galatz, 91 per cent. As a result, the mortality was reduced to 4 per cent for the two years, whereas, just previously, it had been 21 per cent. Only two children out of 5,767 vaccinated died from tuberculosis in Bucharest. All that M. Lignières could present in opposition to these facts was a few experiments on calves and guinea-pigs. In the former, the vaccination caused fever to develop—also a small tumor. In the latter, vaccination resulted in three deaths out of six. The animals did not, however, present tuberculous lesions, and they were not capable of infecting their congeners. It was on these experiments that M. Lignières based his conclusion that the B C G vaccine is not innocuous and that it should not be given to healthy children. To that contention, Calmette replied that all vaccines, including the smallpox vaccine, cause fever and infect temporarily the lymphatic system, but that this was precisely the sign of the immunity. M. Léon Bernard added that reactions of the organism must not be taken for accident. The B C G vaccine gives fewer accidents or untoward incidents than any other vaccine. Bernard, who is the head of the administration of the health service of France, and who had assumed the responsibility of giving the vaccine authoritative recognition, took occasion to declare again that the vaccine is entirely harmless. M. Bar added that the vaccination should be applied likewise to calves and heifers, and cited a case in evidence.

The Medical Week in Nancy

For the fourth time, the so-called *journées médicales*, or medical week—a regional medical convention—have been held in Nancy. The convention assembled May 4 and extended over three days. It was a complete success. Among the chief topics on the program were: anesthetics and oxytocic medicaments in obstetrics, presented by Agrégé Professor Job; the diagnosis and treatment of sterility in females, by Professor Hamant; the types of biliary lithiasis in which the practitioner should recommend an operation, by Professor Castaigne of Clermont-Ferrand; tuberculous leprosy, with presentation of a case, by Professor Spillmann of Nancy. There was a presentation of a film illustrating the new French methods of physical education, and a visit was paid to the new Institut d'Hygiène.

A Bill to Establish a Medical Council on Ethics

A bill to establish an Ordre des médecins, or council on medical ethics, after the model of the Ordre des avocats, or council on legal ethics, has been introduced into the chamber of deputies by Deputy Ernest Couteaux. It is about the twelfth bill of the kind to be introduced. None have had any definite results. Such bills are based on the desire to create a dis-

V 90
1928

ciplinary council within the medical profession, and special courts in which physicians charged with violations of medical ethics might be tried by their colleagues in all cases in which the laws governing citizens as a whole are silent. The objection that is always raised is that such courts will be exposed to the suspicion of professional jealousy. The law permits the holder of a medical diploma who pays for his license to practice, to earn his living by practicing his art. Otherwise, if he cannot follow any other calling, to prevent him from practicing would be equivalent to condemning himself and family to die from hunger. That is why such bills have never accomplished anything, since the government has always thought that the ordinary courts, being instructed by the opinions of professional experts, were sufficient when the misdemeanor charged had worked a hardship on others or merely on the corporative medical syndicate.

BERLIN

(From Our Regular Correspondent)

May 19, 1928.

The Congress of the German Surgical Society

As at the Congress of Internal Medicine, the first topic on the program of the Deutsche Gesellschaft für Chirurgie, held April 11-14, 1928, was the problem of malignant tumors. Professor Heidenhain of Worms expressed the conviction that carcinoma and sarcoma result from the same cause. Likewise, he is becoming more and more convinced that the transmission takes place through an agent as yet unknown. In his experimental researches, he followed two distinct methods. From cells derived from tumors in human beings or in mice (cancer and sarcoma), he prepared autolysates by leaving them from twenty to thirty days in a thermostat bath, or he used fresh tumor pulp (*"brei"*). This fresh pulp or the autolysates were injected into white mice, subcutaneously, intracutaneously, intramuscularly and intraperitoneally, or into organs such as the liver. As far as possible, noninfected (*nicht infizierte*) tumors were employed, in order to exclude, in the transmission, the factor of inflammation; likewise, only sterile autolysates were used. From injected material from a carcinoma, sometimes a carcinoma and sometimes a sarcoma would develop, and likewise, from material from a sarcoma, sometimes a sarcoma and sometimes a carcinoma, and occasionally, too, mixed tumors, or both kinds of tumor in one organism. The clinical picture that the mice presented resembled that of man with malignant tumors. Even though the animal organism was flooded, as it were, with inoculation material, the tumor appeared usually only in one place. This is explained by the fact that the largest part of the inoculated material is rendered innocuous by the organism. What site the primary tumor will occupy cannot be foretold. Usually it was some distance from the point of injection, though in four instances the site of the tumor coincided with the site of the injection. Also the structure of the tumor was independent of the nature of the cells used for the autolysate or the tumor pulp. The appearance of the tumors at a site distant from the point of injection is explained by the transportation of the causative agent by the blood stream, or, less frequently, by the lymph channels. The speaker believes that the causative agent is caught at some point in the capillaries and that the growth extends out through these. Whether a carcinoma or sarcoma develops depends on the nature of the tissue that the tumor grows into (epithelium or connective tissue). The stroma of the tumor develops from the surrounding cell complex that does not succumb to the causative agent. These primary tumors form, as in man, metastases. A general cachexia ensued, to which the animals succumbed. Inoculations by means of fresh tumor pulp or autolysates from the metastases were successful, just as from the primary tumors. In only about 6 per cent of the cases did the inoculation result in a tumor. The tumor appeared seldom under six months; frequently after from six to twelve months, most frequently after from one to two years; on an average, after a little more than a year. The comparatively small percentage of successful inoculations shows that the animals have a partial immunity to the action of the causative agent. The primary tumors appeared in any of the organs. It was noteworthy that, in spite of the many intracutaneous and subcutaneous inoculations, no skin tumors and comparatively seldom a tumor of the gastro-intestinal tract (only one carcinoma of the stomach, one of the gallbladder, and one of the colon) was observed. The speaker believes that this supports the view that more frequently a transmitted tumor develops through direct contact with the causative agent than through hematogenic action. On the basis of his experiments, the author thinks that a causative agent coming from outside the body produces cancer and sarcoma. The question arises whether that can be demonstrated in the outside world. Thus far, it has not proved possible. But the speaker referred to a case in which a French student suffered a slight injury on his hand in drawing off the fluid from a carcinomatous ascites and later developed a carcinoma of the hand. Careful attention must be paid to excretions of disintegrating carcinomas, as a transmission in that manner is not an impossibility. It is possible that food animals with malignant tumors constitute a danger for the gastro-intestinal tract. Finally, attention was called to the frequency with which miners working under ground develop carcinoma of the lung. While, from the foregoing experiments, it appears to be definitely established that carcinoma and sarcoma are caused by the same agent, the author hesitates to commit himself to the conclusion that we are dealing with an infectious disease. All the preparations that furnished the basis for these researches were examined by anatomopathologic authorities (Schmidt of Würzburg and Hanser of Ludwigshafen). The latter confirmed and supplemented the observations of Heidenhain by photographic representations of numerous preparations. He emphasized that the tumors developed by Heidenhain were not transplants but rather "results of inoculation." Lubarsch of Berlin admits that these experiments do not deal with spontaneous tumors such as so frequently appear in white mice, since not only the site at which they appear but also the extent of the tumors are opposed to such a conception. It is incontestably shown that sarcomas and carcinomas were produced in white mice by means of tumor pulp and autolysates. Against the conclusion that we are dealing with an infectious disease may be adduced many facts, such as the observations on tar cancer.

Prof. K. H. Bauer of Göttingen discussed the cancer problem and the advances made in the problems of hereditary transmission. The importance of hereditary transmission for the tumor problem lies not so much in the question of hereditary influence on cancer as in the advances that cytology has made through the study of the biologic aspects of hereditary transmission. The cell is, as it were, still further subdivided into a large complicated system of new elementary units, the genes, or hereditary germinal factors. The fundamental idea of the mutation theory of the origin of tumors is based on the conception that mutated genes and chromosomes are to be considered the final material carriers of tumor characteristics.

The independent growth is the result of the fact that any change in the nature of the genes constitutes a stimulus toward an unphysiologic intracellular division. Mutations appear only in connection with nuclear division. Meisel of Constance gave another explanation of the results of the Heidenhain researches. Through interruption of the blood stream a necrotic zone develops. The cells present in it are, however, not completely destroyed, as is shown by their stainability. If the circulation is restored, their protoplasma is formed again. But in a portion of the cells there has been a loss of chromosomes, whereas, after the regeneration, the cells all have chromosomes; the defective

nutrition, or, it may be, the action of a poison (especially cyanogen), changes through mutation the normal cells to tumor cells. Hock of Prague is also of the opinion that carcinoma and sarcoma have the same cause; however, he does not think of the condition as an infectious disease. Inherited growth stimuli play an important part in their development. Burckhardt of Marburg raised the question whether malignant tumors could not be produced by the inoculation of autolysates of normal body cells. Heidenhain has carried on also such experiments. On the day of the inoculation, a tumor started to develop in a mouse, but it was probably a spontaneous tumor.

Kelling of Dresden drew a comparison between the chances of cancers of the gastro-intestinal tract developing and the chances of preventing them by radical interventions. The chances of a patient with gallstone developing cancer of the gallbladder amount to 4 per cent; the mortality from removal of the gallbladder is, in young persons, likewise 4 per cent, but increases later to from 7 to 16 per cent. Of 155 cases of gastric ulcer 35 per cent became cancerous; in cases in which the patients were above 45 years of age the percentage was 50. The mortality from gastric resections is 5 per cent. Hinze of Berlin emphasizes that in the treatment of malignant tumors three principles must be emphasized: (1) early treatment; (2) radical procedures, and (3) constant supervision. He counts as radical treatment also postoperative prophylactic roentgenization.

(To be continued)

BUCHAREST

(From Our Regular Correspondent)

May 16, 1928.

The Treatment of Actinomycosis

At the last meeting of the Bucharest Interhospital Association, M. Avramescu spoke on actinomycosis in man. He has classified almost all the cases reported in Roumania since 1904 and therefore is in a position to make observations on the special characters of the malady and to say a word on treatment. He called attention to the fact that it is not necessary to wait for the appearance of the characteristic yellow grains in order to arrive at the diagnosis of actinomycosis. Clinical and microscopic examinations permit the disease to be recognized. The following symptoms are characteristic: hybrid aspect and torpid evolution of the lesion with cicatrization of old fistulas in the immediate neighborhood of recent invasion. On the face and neck in particular there is pain and there is trismus as soon as the muscles are attacked, but swelling of the lymph nodes is absent. M. Avramescu has collected sixteen new cases, of which eleven were in the cervicofacial region, one in the pleural region with perirenal infiltration, one in the cecal and prececal regions, one in the umbilical region and two near the anus. The inoculation—habitually due to straw, to ears of wheat or to the débris of cereals—seems almost always to have been by way of the digestive tract. The course was always subacute or chronic, lasting from three months to six years, with successive inflammatory attacks producing abscesses. As to treatment, surgical intervention seems to him indispensable, followed by the use of serum. The operation may consist simply in an incision followed or not by curettage and cauterization of the walls of the abscess. Potassium iodide always should be given internally. However, he considered this only in the light of an adjuvant to the other measures.

Late Syphilis of the Uterus and Its Symptoms

Syphilitic disease of the uterus is no longer doubted by gynecologists. Dr. G. K. Rhatonyi presents five cases. Three of the women were from 30 to 40 years of age; the other two, between 57 and 60. Syphilis of the uterus may be easily confused with epithelioma and tuberculosis. The symptoms vary according to whether the patient menstruates or not. If the patient does menstruate, she may become pregnant and pregnancy is likely to be interrupted sooner or later. But, above all, the menses are abundant and the intermenstrual intervals become shorter. The uterus becomes hypertrophic and uniformly increased in size. The mucosa and appendages present little or no changes. Neither curetting, Apostoli's method, nor astringents have the least effect on the hemorrhages, while antisyphilitic treatment regulates menstruation and prevents intermenstrual flowing. In women who have passed the menopause there are both metrorrhagia and leukorrhea. The hemorrhages are not abundant, but the patients complain of weakness and look cachectic. On examination, the cervix and uterus, as well as the vaginal rugae, appear to have undergone senile atrophy. The Wassermann reaction is positive in almost all cases. All these signs and symptoms are improved by antisyphilitic treatment. The hemorrhages are caused by syphilitic endarteritis. Hence, in cases of obstinate metrorrhagia, one might do well to think of syphilis as a cause and to try appropriate medication. Late syphilis of the uterus is more frequent than it is generally thought to be.

Cholera Spread by Flies

It is reported from Jugoslavia that from May to October last year 435 cases of cholera, 288 of which were fatal, occurred in the southern part of Albania. The cholera spirillum has been found in flies and also in cereals to which these insects have had access. The sale of all drinks and cooked food has been prohibited, and an order has been issued requiring that all articles of food in the infected areas be kept covered. The knowledge of the rôle played by insects in the propagation of disease is becoming rapidly extended as the result of popular lectures which are being given.

Novel Questions on the Treatment of Ectopic Pregnancy

At a recent meeting of the Oradea Medical Society, Dr. Markovics raised some novel questions concerning the treatment of ectopic pregnancy. He pointed out the importance of ascertaining the position of the ovum in the tube, for, when the implantation is in the inner or middle part, rupture, if it occurs, is the cause of great and immediately dangerous hemorrhage. When implantation of the ovum is in the outer third or in the ampulla, great bleeding is less marked and occurs later in pregnancy (fourth or fifth month). The tubofimbrial or tubo-abdominal form gives rise to the least sudden and the least dangerous kind of bleeding, and in this form the gestation may be prolonged and may even reach term. Tubal abortion, although not truly a rupture of the tube, may occasionally give rise to a considerable amount of hemorrhage. Markovics has seen two cases in which there was more than a liter of blood in the abdomen. Another point of importance is the height of the fetal sac in the abdominal cavity. The speaker stated that save in tubofimbrial and ampullaceous varieties the sac of a tubal gestation always occupies a high level in the pelvis and can be felt easily through the anterior fornix. When rupture occurs, the tumor occupies the hypogastric zone and the hemorrhage is profuse. Tubofimbrial varieties on the other hand are always found lying early in the pouch of Douglas and hemorrhage from them is more limited, being held in check by adhesions. With regard to the method of operative treatment, the vaginal route is to be preferred only for early and small tubal pregnancies situated low in the pelvis and relatively movable; the abdominal route is the one to be more generally adopted and gives more security. Its indications are: the abdominal situation of the tumor, its large size and age and cataclysmic hemorrhage. Markovics believes that it is possible sometimes to diagnose the part of the tube in which the ovum is situated, at any rate before rupture has taken place. In quite recent times, however, some prominent western authors have thrown some doubt on this, pointing out that the diagnosis of ectopic pregnancy is itself often extremely difficult.

V 90
1928

Marriages

JAMES MERCER HARSHA, Washington Court House, Ohio, to Miss Cela Thomas of Jeffersonville, June 6.

JOSEPH ERIC BITTNER to Miss Bernadine Ditter, both of Yakima, Wash., May 1.

CHARLES I. STEPHEN, Ansonia, Ohio, to Mrs. Lucella Gilbert of Rossburg, June 3.

HOWARD JACK LEVINE to Miss Edith Chiprin, both of Chicago, June 10.

ROBERT K. LAMBERT to Miss Maxine Toch, both of New York, May 17.

Deaths

Albert Maynard Cole, Indianapolis; Indiana Medical College, Indianapolis, 1894; University of Pennsylvania School of Medicine, Philadelphia, 1896; member of the American Roentgen Ray Society and the American College of Radiology; formerly professor of dermatology and electrotherapeutics, Indiana University School of Medicine; formerly on the staffs of the City, Robert W. Long, St. Vincent's and the Methodist Episcopal hospitals; aged 58; died, June 3, of encephalitis and uremia.

Samuel Edwin Smith ✙ Indianapolis; University of Louisville (Ky.) School of Medicine, 1884; provost of the Indiana University; member of the American Psychiatric Association; connected with the Robert W. Long Hospital and the Robert Whitcomb Riley Hospital; medical superintendent of the Eastern Indiana Hospital for the Insane, Richmond, 1891-1923; formerly on the staff of the Northern Indiana Hospital for Insane, Logansport; aged 66; died, May 29, of heart disease.

Joseph William Courtney ✙ Boston; Harvard University Medical School, Boston, 1893; member of the American Neurological Association, the New England Society of Psychiatry and the American Psychopathological Association; formerly lecturer on neurology, Harvard Medical School; at one time on the staffs of the Boston City and Carney hospitals; aged 60; died, June 6, of pneumonia.

Frank G. Landeen, Stillwater, Minn.; University of Minnesota Medical School, Minneapolis, 1894; member of the Minnesota State Medical Association; past president and secretary of the Washington County Medical Society; formerly deputy coroner and coroner; on the staff of the Lakeview Memorial Hospital; aged 55; was found dead in his office, May 30, of heart disease.

Timothy J. Dwyer, Omaha; Creighton University School of Medicine, Omaha, 1902; member of the Nebraska State Medical Association; at one time associate professor of surgery at his alma mater; formerly on the staff of St. Joseph's Hospital; aged 55; died, May 29, at Los Angeles, of heart disease.

Walter Forchheimer, Cincinnati; Medical College of Ohio, Cincinnati, 1890; member of the Ohio State Medical Association; formerly clinical professor of ophthalmology, University of Cincinnati College of Medicine; aged 62; died, May 22, at the Good Samaritan Hospital, of cerebral hemorrhage.

George Thompson Johnson ✙ Terre Haute, Ind.; Rush Medical College, Chicago, 1908; past president of the Vigo County Medical Society; served during the World War; president of the staff of the Union Hospital; aged 44; was killed, May 31, when two interurban cars collided.

Charles B. Johnson ✙ Champaign, Ill.; Medical College of Ohio, Cincinnati, 1872; past president of the Illinois State Medical Society; aged 84; was killed, May 31, when the interurban car in which he was riding collided with another; a son, also a physician, was killed in this accident.

Charles Horace Ramsay, Collins, Miss.; Medical Department of the Tulane University of Louisiana, New Orleans, 1886; member of the Mississippi State Medical Association; formerly mayor of Collins; at one time member of the state legislature; aged 69; died in May, of heart disease.

George Sturtevant MacPherson ✙ Asheville, N. C.; Harvard University Medical School, Boston, 1894; served during the World War; formerly on the staff of the Winyah Sanatorium; aged 62; died, May 24, at the Biltmore (N. C.) Hospital, of paralysis agitans.

Albert Sidney Johnston Hyde, Roseland, La.; Medical Department of the Tulane University of Louisiana, New Orleans, 1909; member of the Louisiana State Medical Association; aged 43; was shot and killed, June 7, by his wife.

Richard Albert Wall, Forest Home, Ala.; Medical Department of the Tulane University of Louisiana, New Orleans, 1894; member of the Medical Association of the State of Alabama; aged 58; died, May 28, in Montgomery, of heart disease.

Earle William Bolton ✙ Oil City, Pa.; Jefferson Medical College of Philadelphia, 1897; on the staff of the Oil City Hospital; aged 56; died, May 22, at the Jefferson Hospital, Philadelphia, of complications following bilateral mastoiditis.

Edward Everard Feild, Norfolk, Va.; University of Virginia Department of Medicine, Charlottesville, 1879; member of the Medical Society of Virginia; aged 73; died, May 29, at St. Vincent's Hospital, of chronic interstitial nephritis.

Clarence Clark Gentry, Knoxville, Pa.; College of Physicians and Surgeons, Baltimore, 1883; member of the Medical Society of the State of Pennsylvania; aged 70; died, February 29, of heart disease and paralysis agitans.

Montgomery Hunter, Washington, D. C.; Medical Department of Columbian University, Washington, 1896; member of the Medical Society of the District of Columbia; aged 64; died, May 28, of myocarditis and arteriosclerosis.

Harry Herbert Sumner, Lowell, Mass.; Baltimore Medical College, 1901; member of the Massachusetts Medical Society; formerly on the staff of the Lowell Hospital; aged 55; died, May 20, at Rutland, of pulmonary tuberculosis.

Charles J. May, Poplarville, Miss.; Memphis (Tenn.) Hospital Medical College, 1901; aged 54; died, May 27, at the Elizabeth Sullivan Memorial Hospital, Bogalusa, as the result of injuries received in an automobile accident.

Robert Nelson, Empire, Ala.; Birmingham Medical College, 1905; member of the Medical Association of the State of Alabama; formerly health officer of Birmingham; aged 51; died, May 3, at Birmingham, of pneumonia.

William Grant Tucker, Dunsmuir, Calif.; University of Michigan Medical School, Ann Arbor, 1893; member of the California Medical Association; aged 59; died, April 28, in San Francisco, of cerebral hemorrhage.

Benjamin Fred Leonard, Plainfield, N. J.; College of Physicians and Surgeons, Baltimore, 1897; also a dentist; aged 58; died, May 29, at the Clifton Springs (N. Y.) Sanitarium, of uremia and nephritis.

Robert Lee Warren ✙ Dunn, N. C.; Medical Department of the Tulane University of Louisiana, New Orleans, 1911; president of the Harnett County Medical Society; aged 40; died, May 19, of Addison's disease.

Frederick W. Prentice, Eugene, Ore.; Cincinnati College of Medicine and Surgery, 1878; University of Pennsylvania School of Medicine, Philadelphia, 1887; aged 83; died suddenly, May 16, of cerebral hemorrhage.

John Crayke Simpson ✙ Washington, D. C.; University of Pennsylvania School of Medicine, Philadelphia, 1882; member of the American Psychiatric Association; aged 69; died suddenly, June 6, of heart disease.

Elmer Arthur Johnson ✙ Seattle; Rush Medical College, Chicago, 1921; formerly on the staffs of the Seattle General, King County, City and Minor hospitals; aged 32; died, May 16, of tuberculosis of the lungs.

Richard Dillard, Jr., Edenton, N. C.; Jefferson Medical College of Philadelphia, 1879; member of the Medical Society of the State of North Carolina; aged 70; died, May 14, of chronic myocarditis.

John Elijah Martin, Brewton, Ala. (licensed, Alabama, 1879); member of the Medical Association of the State of Alabama; aged 79; died, March 12, of angina pectoris and arteriosclerosis.

David Hott, Jr., Morgantown, W. Va.; College of Physicians and Surgeons, Baltimore, 1902; aged 54; died, May 20, at the Fitzsimons General Hospital, Denver, of pulmonary tuberculosis.

Millard Parker Hanson, Patten, Maine; Medical School of Maine, Portland, 1914; formerly member of the school board of Bath; aged 44; died, May 15, at Bangor, of angina pectoris.

George Arthur Dickinson, Port Hope, Ont., Canada; Victoria University Medical Department, Toronto, 1888; medical officer of health of Port Hope; aged 63; died, April 18.

Vernon Clare Lane ✙ Knoxville, Tenn.; Lincoln Memorial University Medical Department, Knoxville, 1908; formerly city health officer; aged 43; died, May 25, in a local hospital.

Emma H. H. Antonius ✠ Brooklyn; Woman's Medical College of the New York Infirmary for Women and Children, 1891; aged 57; died, April 20, of chronic myocarditis.

Charles Frederick Arbuthnot Locke, New York; University of Toronto Faculty of Medicine, Toronto, Ont., Canada, 1903; aged 47; died, May 10, of cirrhosis of the liver.

John E. Mitchell, Havana, Ark. (licensed, Arkansas, 1903); aged 66; died, May 11, at St. Vincent's Hospital, Little Rock, of hypostatic pneumonia, following an appendectomy.

John Michael Kelly ✠ Boston; Tufts College Medical School, Boston, 1905; formerly on the staff of the Carney Hospital; aged 49; died, April 7, of heart disease.

William E. Milbank, Albany, N. Y.; Albany Medical College, 1872; formerly state health commissioner; aged 87; died, May 29, of chronic myocarditis and nephritis.

Charles Atwood, Moravia, N. Y.; State University of Iowa College of Medicine, Iowa City, 1881; for eighteen years county coroner; aged 73; died, June 3, of angina pectoris.

James Nelson Faulkner, Paterson, N. J.; University of Louisville (Ky.) School of Medicine, 1875; Civil War veteran; aged 80; died, May 23, of mitral regurgitation.

John C. McCauley, Ellensburg, Wash.; Willamette University Medical Department, Salem, Ore., 1884; state senator; aged 67; died, May 19, of angina pectoris.

Millard Fillmore Moore, Greenwich, Conn.; University of Missouri School of Medicine, Columbia, 1877; St. Louis Medical College, 1879; aged 71; died, April 6,

Allen Marshall Bradley, Sioux City, Iowa; Chicago College of Medicine and Surgery, 1910; aged 58; died, May 17, in a local hospital, of cirrhosis of the liver.

Charles Lyman Crider, Crooksville, Ohio; Starling Medical College, Columbus, 1890; aged 60; was found dead in his office, May 24, of cerebral hemorrhage.

Leo C. Tarleton, Marksville, La.; Medical Department University of Louisiana, New Orleans, 1880; aged 78; died, April 10, of valvular heart disease.

John W. Jones, Winston-Salem, N. C.; Leonard Medical School, Raleigh, 1891; aged 64; died, May 3, of motor paralysis, following an infection from a tooth.

Albert Karl Happersberger, San Francisco; University of California Medical School, San Francisco, 1888; aged 64; died, May 22, of cerebral hemorrhage.

George Matthew Waldeck ✠ Detroit; University of Michigan Medical School, Ann Arbor, 1908; aged 43; died, May 29, of splenic myelogenous leukemia.

Allen Lowery Porter, Kansas City, Mo.; University Medical College of Kansas City, 1900; aged 51; was killed, in May, in an automobile accident.

Orrin Frank Burroughs, Jr., Plainwell, Mich.; Rush Medical College, Chicago, 1882; aged 69; died, April 24, of carcinoma of the bladder.

Aloysius Francis Briggs, Long Island City, N. Y.; Long Island College Hospital, Brooklyn, 1904; aged 47; died, May 24, of tuberculosis.

John E. Hattery ✠ Celina, Ohio; Starling Medical College, Columbus, 1884; bank president; aged 70; died, May 31, of arteriosclerosis.

George Stanislas Gregoire, Sherbrooke, Que., Canada; Laval University Faculty of Medicine, Quebec, 1875; aged 82; died, April 6.

John Theodore McDonald ✠ Chicago; Loyola University School of Medicine, Chicago, 1924; aged 30; died, March 26, of pneumonia.

Joseph Crawford Irwin, Pittsburgh; Jefferson Medical College of Philadelphia, 1886; aged 66; died, May 24, of lobar pneumonia.

Charles Dunning ✠ Arkansas City, Kan.; Medical Department of Columbia College, New York, 1887; aged 67; died, May 18.

George A. Pogue, Ontario, Ore.; Kentucky School of Medicine, Louisville, 1879; died, April 8, of cerebral hemorrhage.

William H. Haifley, Muncie, Ind.; Eclectic Medical Institute, Cincinnati, 1891; aged 63; died, June 5, of pneumonia.

Clifford John Dees ✠ Detroit; Detroit Medical College, 1884; aged 77; died suddenly, May 28, of heart disease.

George Dwight Hart, Otho, Iowa (licensed, Iowa, 1886); Civil War veteran; aged 91; died, May 13, of senility.

Charles L. Walton, Columbia, S. C.; Leonard Medical School, Raleigh, N. C., 1892; aged 66; died, May 11.

Correspondence

IODIZED OIL IN PULMONARY SUPPURATIONS AND ACID-FAST BACTERIA

To the Editor:—In a recent abstract of an article by E. R. Ware (*California & West. Med.* **28**:356 [March] 1928; abstr. THE JOURNAL, April 28, p. 1409), the statement is made that "in one case a cavity which was filled with iodized oil was thought to be nontuberculous. Following injection tubercle bacilli appeared in the sputum. None had been found previously." I have not seen the original article and therefore do not know whether the "tubercle bacilli" were proved such by animal inoculation or not. In any case there is a source of error in staining for acid-fast bacteria after the use of such substances as iodized oil. I called attention to this in an article two years ago (An Error in Acid-Fast and Gram Staining Due to Petrolatum, *Arch. Path. & Lab. Med.* **1**:390 [March] 1926). I have tried the effect of iodized oil on non-acid-fast diptheroid bacteria and find that it confers on such organisms an acid-fast character in the same way that petrolatum does. The iodized oil, however, was not removed from the bacteria by the use of xylene, which I had recommended for removing the petrolatum, but carbon tetrachloride and chloroform are effective solvents for this purpose. A great variety of bacteria are to be found in these lung cavities, including many diphtheroids, fusiform bacilli and others which, coming in contact with the iodized oil, might readily be confused with the tubercle bacilli in stained smears. The same confusion may also occur in myelography and pyelography. I should like to repeat the conclusions from my article: "Animal inoculation or culture remains the best method for finally determining the presence of *B. tuberculosis*. Other lubricating substances (besides petrolatum) used on catheters or *in treatment* should be tested as to their ability to confer on bacteria this acid and alcohol resistant character." Iodized oil must now be added to the substances which have this effect on bacteria, and care should be taken against misinterpretations when it is used for roentgenologic exploration.

W. L. HOLMAN, M.D., Toronto.
Associate Professor of Bacteriology, University of Toronto Faculty of Medicine.

DIPHTHERIA ANATOXIN

To the Editor:—In the Paris letter in THE JOURNAL, March 24, an item on diphtheria anatoxin contained certain errors of appreciation which might be prejudicial to a method that has proved efficacious and beneficial in France since the first successful experiment at the end of 1923.

Diphtheria anatoxin has been injected in France alone more than a million times without any fatal accidents occurring. In December, 1927, the Paris Academy of Medicine asserted both the security and the efficiency of this method and requested the French government to institute compulsory antidiphtheric vaccination. An executive committee elected by the French board of health pronounced in the *Bulletin of the Academy of Medicine*, March 6, 1928, the foregoing qualities of Ramon's anatoxin and suggested arrangements for a system of antidiphtheric vaccination.

Not only does the French public no longer mistrust this method, but so many applications have been made that the Pasteur Institute (which alone prepares and supplies anatoxin) has been obliged to increase tenfold its production and even then cannot supply all demands.

In addition to Paris and its district, many big cities, including Lyons, encouraged by the Mayor President Herriot,

V 90
1928

Marseilles, Bordeaux and Nice, have organized antidiphtheric vaccination by Ramon's anatoxin.

This represents a further proof of the inoffensiveness of the method and its widespread generalization in France.

W. ILLINGWORTH HELIE, M.D.
American Hospital of Paris.

ARMSTRONG'S OXYCATALYST TO DENTISTS

To the Editor:—Referring to your report on "Armstrong's Oxycatalyst," I should like to report you the activity of Armstrong among the dental profession. During July or August, 1923, introduced by W. G. Crandall, 802 Merritt Building, Los Angeles, Mr. Armstrong appeared before the San Diego Dental Society and spoke for two or more hours on the possibility of radium salts as curative agents. He advocated their use in baths, drinking water and foods. He reported how glorious plants grew when radium salts were used as fertilizers. Dr. Crandall at that time reported how splendid root-canal fillings could be made quickly and carelessly (without skill) by using radium salts in certain pastes. Later, the dental profession was circularized by some company in Los Angeles on radium paste for root-canal fillings.

At that time Mr. Armstrong was selling for $75 a small stick, a radioactivating substance, which users could place in drinking water or milk. He also was dispensing bath salts and jars for containing drinking water. I should like to suggest that you make further inquiries of his activities from W. G. Crandall—address given above—and W. E. Walsh, Medico-Dental Building, San Diego.

HARVEY STALLARD, D.D.S., San Diego, Calif.
Vice President, Board of Dental
Examiners of California.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

RELATION OF CALCIUM TO EDEMA

To the Editor:—Can you tell me whether cases are known in which intravenous injections of calcium salts (or glucocalcium) have produced swelling and soreness of the ankles? What could be the explanation of this phenomenon, provided the technic of injections was perfect, the injections were given very slowly, and no local reactions were observed? Kindly omit my name.

M.D., Maryland.

ANSWER.—No reports of cases of swelling and soreness of the ankles resulting from intravenous injections of calcium salts were found in a somewhat incomplete survey of the literature on intravenous calcium therapy.

In Leo Loeb's review of edema (*Medicine* **2**: 171 [Aug.] 1923), in the paragraph on calcium and edema, the following information appears: Chiari and Januschke found that subcutaneous injections of calcium salts in rabbits, given previous to application of mustard oil to the conjunctiva, inhibited the development of the local inflammatory edema that normally would follow such application, and that these salts prevented edema of the lungs and the pleural exudate which result from injection of diphtheria toxin and of sodium iodide. Levy, Leo, Muller and Saxl could not confirm the results of Chiari and Januschke concerning the influence of calcium salts on the pleural exudates. Levy found that the inflammatory exudate produced in the pleural cavity by local application of turpentine could be diminished temporarily by calcium, but this effect disappeared on the second day. On the other hand, Leo Loeb and his co-workers (Fleisher and Hoyt), on comparing the effects of the intravenous injection of isotonic sodium chloride solution with the effects of a mixture of this solution and of calcium chloride solution, found that the calcium noticeably increased the transudation of fluid into the peritoneal cavity in rabbits. Loeb suggests that differences in the concentration of the injected calcium may explain the apparent differences in the results reported.

STATUS LYMPHATICUS

To the Editor:—It is a known fact that sudden and unexplained deaths in infancy and early childhood are due to enlarged and persistent thymus glands. Even fits of coughing, vomiting, convulsions, fright, anesthesia or the prick of a hypodermic needle are known to produce sudden death. I have a pair of twin girls, aged 14 months, under my care for enlarged thymus glands. Both have difficulty in breathing because of mechanical pressure of the enlarged thymus on the trachea. The question of vaccination against smallpox has been put to me, and I am at sea whether to vaccinate them because of the possibility of anaphylactic shock and its consequences. I should like to know what procedure to follow in this case. I should also appreciate any suggestions you may make with reference to the treatment of enlarged and persistent thymus glands.

BENJAMIN FLEISSIG, M.D., New York.

ANSWER.—A good review of our present knowledge of status lymphaticus is given by David Marine (*Arch. Path.* **5**: 661 [April] 1928). The danger of anaphylactic shock from vaccination against smallpox would seem to be highly remote. The matter might be explained to the parents and the responsibility placed on them for any possible unfavorable consequences of vaccination or for the possibility of the twins contracting smallpox in case the parents should decide to postpone vaccination until later.

INDUSTRIAL DERMATITIS FROM MATERIALS USED IN CASE HARDENING

To the Editor:—I noticed in THE JOURNAL, April 21, your reply to a physician from South Bend, Ind., who asked for some information regarding dermatitis in persons engaged in the operation of case hardening. A situation has come to my attention in this connection in which I would appreciate your advice. We are interested in a large concern which carries out the operation of case hardening, using a compound known as "bone," which is a preparation composed of wood charcoal, coke, barium carbonate, calcium carbonate and sodium carbonate, the latter substance being used as a binding effect in a proportion of less than 5 per cent. It seems that the steel articles to be case hardened are placed in metal containers in which they are surrounded by this "bone." The containers are then placed in the hardening oven, where exposure to heat causes this compound to throw off carbon, which, according to our informant, is absorbed into the exposed surface of the steel. Persons handling this "bone" present themselves with a dermatitis accompanied by intense itching. If exposure is continued, this dermatitis is followed by large blisters. These skin conditions first appear on the hands, wrists and forearms. In some of the cases, the condition has appeared on the back of the neck. We have suggested that possibly the quenching oil, used in connection with this process, might be responsible for all oil furunculosis. However, the concern to which we refer, in reply to this suggestion, writes: "We would refer you to our shipping clerk, who is never called upon in any way, shape or manner to handle cutting oils; yet when a shipment of this 'bone' is received, while loading and unloading it from our truck, the next day a rash appears on his hands and any part of his body which comes into contact with this 'bone.'" If you can give me any information or advice on the subject, I will be very grateful, especially from the standpoint of prophylaxis.

A. D. LAZENBY, M.D., Baltimore.

ANSWER.—In case hardening, the result sought is the procurement of a hard, wear-resisting, steel coating or jacket on a tough but ductile core of steel. This may best be accomplished by bringing steel materials to be case hardened into contact with carbon bearing gases in the absence of air, and at a time when the steel is at a high temperature. The gases available for this purpose are carbon monoxide, cyanogen and certain hydrocarbons. By diffusing into the heated steel, these gases lay down a part of their carbon content.

Coke, bone charcoal, animal charcoal, wood charcoal, horn charcoal and leather charcoal are the commoner substances used as the source of the carbon. To these carbonaceous materials may be added for rapid action such other materials as common salt and the carbonates of barium, sodium and calcium. The worth of the carbonates in this situation is obvious.

In addition to these essential ingredients of a case hardening "bone," many commercial preparations contain secret constituents that are believed to add to the effectiveness of the preparation and in turn to the salability of the product. A small percentage of potassium prussiate is much valued as an accelerator of case hardening. In such situations only by careful analyses may undisclosed toxic agent(s) be determined.

In the present instance, if one assumes that the analysis is as recorded and that the shipping clerk who never entered the process room was involved on contact, the toxic agent is probably to be found in the alkali carbonate content of the mixture

and more especially in the sodium carbonate (soda ash). The action of this alkali salt is rarely so severe as that described in the query. This increased action may be due to the mechanical abrasive action of the coke and charcoal particles in combination with the soda ash. Carbon workers are subject to distressing skin lesions but of a less acute type than those here mentioned.

If, in fact, the harmful agent is as suggested, relief may be secured through the use of less irritating alkali carbonates. Although our correspondent indicates that the sodium carbonate is used as a binder, experience has shown that in most instances this is unnecessary and that the soda ash may be supplanted by increased quantities of barium carbonate. If for any reason this is not feasible, resort should be had to tightly woven gloves, frequent washing of the hands, and boric acid ointment night and morning.

SYMPTOMS RESULTING FROM ADHESIONS

To the Editor:—An 18 year old girl was operated on for acute appendicitis; except for a small hematoma, she made an uneventful recovery. A year later she began to suffer intense intra-abdominal pains; these became unbearable and, as medical treatment and diathermy were tried without results, she was operated on again. Heavy adhesions between the omentum and the parietal peritoneum and interviscera adhesions also, besides a sclerocystic ovary, were found and removed, following which the abdomen was flooded with sterilized oil and solution of pituitary was injected subcutaneously for four days. After the last operation, the pains subsided for three or four weeks. Now the situation is almost the same as before, and I suspect new adhesions. A third operation seems almost inevitable, but I fear it because the patient stood the last one very poorly (high pulse rate, bowel ectasis, acidosis). Can you give me information about the best management of such a case? Please omit name.

M.D., Porto Rico.

ANSWER.—It was, indeed, unfortunate at the last operation, which was essentially done to overcome adhesions which were present, that after these were separated the abdomen was flooded with "sterilized oil," because oil so introduced collects, acts as a foreign body irritant, becomes walled off and only causes the formation of additional adhesions. Our correspondent is probably correct in suspecting that the symptoms from which the patient is now suffering are partially if not wholly due to adhesions. Other pathologic conditions should be ruled out by roentgen-ray examination and other laboratory tests. If no other pathologic change is found, reoperation must be considered, but not until at least one year has elapsed since the last operation, as some of the adhesions may spontaneously become absorbed.

INFLAMMATION FOLLOWING HYPODERMIC INJECTION OF SODIUM CACODYLATE

To the Editor:—Recently I observed a complication in the hypodermic use of sodium cacodylate which I am at a loss to explain to the patient or to myself. The dose has varied from 3 grains (0.2 Gm.) in the beginning to 7 grains (0.5 Gm.) later, and has been alternated from one arm to another at three-day intervals. From one to two weeks after each injection there has developed an inflammatory reaction with notable induration at the site of the injection. Incision of these lesions allows the escape first of a thin, greenish yellow fluid of serum consistency amounting to about 1 cc. This is followed by an equal or greater amount of sanguinopurulent discharge. The individual incision may continue to drain for from one to three days. These abscesses are evidently not of microbic origin, because other patients treated similarly have not reacted in such fashion. If this is a case of local tissue necrosis from a nonabsorbed drug, as I am inclined to believe, please advise me as to treatment and suggest a means of avoiding it.

NORMAN A. FOX, M.D., Stokesdale, N. C.

ANSWER.—Such local idiosyncrasy to sodium cacodylate is not uncommon. Possibly intramuscular or, rather, subfascial injections of a more dilute solution may minimize the reaction sufficiently for practical purposes.

HEARTBURN IN ACHYLIA GASTRICA

To the Editor:—Can you give me any information as to the cause of heartburn in a patient with achylia gastrica? The patient is not nervous or hysterical. The burning occurs in the epigastric region after every meal. Please omit name.

M.D., South Carolina.

ANSWER.—Heartburn, one of the many forms of the subjective sensations included under abdominal distress in achylia gastrica, may or may not be associated with organic disease of the abdominal viscera. In the case described by our correspondent it may be associated with ulcerations in the gastric mucosa as a result of carcinoma, peptic ulcer or chronic gastritis, in which conditions the burning may arise as a result of (*a*) irritation of the ulcer-bearing area mechanically by the ingested food; (*b*) chemical irritation from the combined hydrochloric acid or the free organic acids contained within the secretion, or (*c*) an unknown irritant which may be present in the secretion acting directly or inducing hyperperistalsis or pylorospasm. The burning may arise as a result of a hyperesthesia of the gastric mucosa when the latter is grossly intact. Hyperperistalsis with or without pylorospasm occurring as a result of mechanical irritation, or reflexly as a result of distention of the proximal portion of the duodenum by the rapid emptying of partially undigested foods from the stomach into the duodenum, is known to occur in achylia gastrica. In rarer cases, the pain is due to associated disease of the liver, biliary ducts or gallbladder.

PRURITUS OF LIMBS OF UNKNOWN ORIGIN

To to Editor:—I have a boy 10 years of age under my observation who has severe itching of the lower extremities, beginning around the toes and extending up to the knees. The itching begins with the advent of warm weather and continues until late fall, when it clears up. The pruritus continues throughout the day but is aggravated by warmth, especially in a warm room or after going to bed. The itching is preceded by a reddish papular confluent eruption which comes on suddenly and at times disappears suddenly, leaving a slightly irregular feeling to the skin. The boy has had a recurrence of this condition for the past seven years; his mother states that it was noticed soon after an attack of scarlet fever. I have been unable to find any cause for this trouble. Many local antipruritics have been used. On several occasions a diagnosis of scabies was made and specific treatment instituted without avail. Please give me some information as to where to look for the causative factor and treatment. Please omit name.

M.D., Minnesota.

ANSWER.—This description suggests a papular urticaria or lichen urticatus. It may possibly be caused by heat sensitization, a condition described by Duke as physical allergy. The distribution of the lesions on the lower extremities suggests as an alternative diagnosis a prurigo of the mild type. This disease is, however, a distinctly uncommon one in native Americans. The cause in this case is probably some digestive disturbance and an allergic reaction to a food protein ingested only during the warmer months. The treatment chiefly to be aimed at is correction of the diet, attention to the gastrointestinal tract and small doses of mild mercurous chloride if constipation is a factor. Local antipruritics and baths are valuable.

CAUSE OF GRAY HAIR

To the Editor:—What causes the hair to turn gray? Does ovarian disease or ovarian deficiency affect the color of the hair? I would appreciate references to the literature on the subject. Please omit name.

M.D., Baltimore.

ANSWER.—Nobody knows what causes gray hair. It is a senile change which, of course, like other senile changes, may be remarkably premature. The mechanical explanation of the whiteness is that the appearance of air bubbles between the cells of the hair makes hair gray or white just as snow, or egg albumin which has been beaten up, is made white. There is no established relationship between grayness or any other color of the hair and the sexual organs either in the male or in the female and no reason to believe that such a relation exists. The subject is discussed in many of the larger works on dermatology.

POSSIBLE COMPLICATIONS AFTER USE OF SCARLET FEVER IMMUNIZATION

To the Editor:—A schoolboy, aged 12, with a negative family and past history, was given an immunizing dose of scarlet fever antitoxin because there was a case of scarlet fever in his family. He continued his scholastic work until the fourth day after receiving the antitoxin, when he was seized with a severe pain in the right arm and shoulder. There was some elevation of temperature and an inability to raise the arm. After a few days the right leg was affected with a similar pain and then the left arm and left shoulder and left leg. Morphine was required, as coal-tar products had no effect in relieving the discomfort. The pain persisted about three weeks and gradually subsided. It was then noticed that there was an inability to raise the right arm and there has been a gradual atrophy of the muscles over the right scapula, together with an atrophy of the muscles of the left forearm and a slight atrophy of the muscles of the left leg. There is no pain at present. Other members of the family who received a similar immunizing dose of scarlet fever antitoxin had no trouble. Is this probably a neuritis resulting from the antitoxin or did this boy have some other trouble which was unrecognized? Please omit name.

M.D., Georgia.

ANSWER.—The paralysis described is due not to serum disease but to a coincidental condition. Without further data it is not possible to say whether it was due to poliomyelitis or to neuritis; but it was probably due to one of the two.

V 90
1928

DISEASE OF THE HEART

To the Editor:—I come across patients now and then who complain of some uneasiness in the cardiac region, which they are often unable to describe, and dyspnea on exertion. On auscultation nothing abnormal is found and, in a few cases, sounds in the aortic region are softer than usual. The blood pressure, systolic, is generally between 120 and 110, and diastolic, about 70. Can you tell me whether the low diastolic reading is an early sign or, rather, a forerunner of future aortic trouble in such cases? If so, is the medical man justified in telling his patient of the future heart trouble, if there is besides a causal factor present, say syphilis or rheumatism or influenza and its complication broncho-pneumonia in the past? What about treatment apart from its cause, if one hates to give digitalis? What should be done with such patients if they present themselves in our insurance practice?

N. N. MEHTA, M.B., Bombay, India.

ANSWER.—Patients complaining of uneasiness in the cardiac region, and dyspnea on exertion, should be examined carefully for objective evidence of heart muscle failure, such as moisture at the bases of the lungs posteriorly, large tender liver, and edema of the ankles. Even if none of these can be demonstrated, and if no other cause for the dyspnea can be found, such as anemia, early hyperthyroidism or an irritable heart, early heart muscle failure may be diagnosed or strongly suspected. It is doubtful whether the low diastolic reading should be interpreted as an early sign of aortic trouble. A medical man should tell his patient, in view of these observations, not that he will have future heart trouble but that in all likelihood he has at the present time slight, beginning, heart muscle weakness. Rest in bed, cutting down the patient's activity, and increased rest and sleep are valuable, although there should not be any dread in advising small amounts of digitalis. From the standpoint of insurance practice, such cases would not constitute a good risk. In addition to the foregoing examination, roentgen-ray examination of the heart, basal metabolism determination, and electrocardiographic study should throw valuable light on such cases.

POLLENS PRODUCING HAY-FEVER

To the Editor:—I have a patient here (Roodhouse, Ill.), who has hay-fever regularly on the 15th of August. I have tested him with small and tall ragweed, red top and timothy, oak, June grass and sweet vernal grass. He is subject to all but reacts most positively to the ragweeds. I am wondering whether you can give me the names of other pollen-bearing plants that ripen about the time his fay-fever starts, so that we could test him out and make sure that we have eliminated all possible causes in order to inoculate him in time with the proper extracts.

M.D., Illinois.

ANSWER.—The most important pollens causing pollen disease from August 15 until frost are large ragweed and small ragweed. In a few sections of Illinois, the burweed, marsh elder (*Iva xanthifolia*) and lamb's quarters may be found abundantly enough to cause trouble. The pollens of goldenrod and of sunflower are carried by insects and are of no importance in fall pollen disease. Oak, June grass, sweet vernal grass, timothy and red top pollens are found in the air only during the early summer and do not need to be considered in those patients with pollen disease starting about the middle of August. The cockle-bur, because of its scanty production of pollen, does not need to be considered unless the patient is exposed directly to this plant. Unless there is unusual exposure to other plants than ragweeds, treatment with ragweed pollen extract should be satisfactory.

OBSTRUCTION OF URETERS BY FETAL HEAD

To the Editor:—A 17 year old girl started having convulsions as soon as labor pains began. There had not been anything unusual or abnormal in the previous history and examinations, and albumin was not present in the urine up to ten days previous. I gave morphine-scopolamine in magnesium sulphate and took the patient to the hospital for forced delivery. Thorough catheterization did not show any urine in bladder, but right after delivery the urine began flowing well. The baby's head was round, large and unyielding, and appeared to act as an obstruction to the ureters during labor pains. Four plus albumin with casts and blood was present for three days, but the urine gradually cleared up. There were no more convulsions after delivery, and both mother and child recovered. Is it possible for a large, round and unyielding head to shut off normal ureters completely?

M.D., Oregon.

ANSWER.—It is possible for a large, hard head to shut off normal ureters but the occurrence is extremely rare. The cause of the block is most likely kinking of the ureters rather than direct compression. In eclampsia, anuria is not infrequent, and in these cases urination may begin suddenly and be free from the start. Some degree of dilatation of the ureters occurs in the majority of pregnant women.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, July 10. Chm., Dr. S. W. Welch, 519 Dexter Ave., Montgomery.

CALIFORNIA: San Francisco, July 9. Sec., Dr. Chas. B. Pinkham, 908 Forum Bldg., Sacramento.

COLORADO: Denver, July 3. Sec., Dr. Philip Work, 324 Metropolitan Bldg., Denver.

CONNECTICUT: Hartford, July 10-11. Sec., Reg. Bd., Dr. Robert L. Rowley, 79 Elm St., Hartford. Sec., Homeo. Bd., Dr. E. C. M. Hall, 82 Grand Ave., New Haven.

DISTRICT OF COLUMBIA: Washington, July 10. Sec., Dr. E. C. Copeland, Suite 110, 1801 Eye St., Washington.

HAWAII: Honolulu, July 9-12. Sec., Dr. James A. Morgan, Honolulu.

ILLINOIS: Chicago, June 26-29. Supt. of Regis., Mr. V. C. Michels, Springfield.

MAINE: Augusta, July 2-3. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland.

MASSACHUSETTS: Boston, July 10-12. Sec., Dr. Frank M. Vaughan, 144 State House, Boston.

MISSOURI: St. Louis, July 17-19. Sec., Dr. James Stewart, Capitol Bldg., Jefferson City.

NEW YORK: New York City, Albany, Syracuse and Buffalo, June 25-28. Sec., Dr. Harold Rypins, Educational Bldg., Albany.

NORTH DAKOTA: Grand Forks, July 3. Sec., Dr. G. M. Williamson, Grand Forks.

OREGON: Portland, July 10-12. Sec., Dr. M. K. Hall, 816 Pittock Block, Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July 10-14. Dir., M. C. D. Koch, Harrisburg.

RHODE ISLAND: Providence, July 5-6. Sec., Dr. B. U. Richards, State House, Providence.

SOUTH CAROLINA: Columbia, June 26. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.

SOUTH DAKOTA: Mitchell, July 17. Sec., Dr. H. R. Kenaston, Bonesteel.

UTAH: Salt Lake City, July 2. Dir., Mr. M. H. Welling, 412 State Capitol Bldg., Salt Lake City.

VERMONT: Burlington, June 27-29. Sec., Dr. W. Scott Nay, Underhill.

WASHINGTON: Seattle, July 16. Dir., Reg. Bd., Mr. Charles Maybury, Olympia. Basic Science Bd., July 12. Dir., Mr. Charles Maybury, Olympia.

WEST VIRGINIA: Martinsburg, July 10. Sec., Dr. W. T. Henshaw, Charleston.

WISCONSIN: Milwaukee, June 26-28. Sec., Reg. Bd., Dr. Robert E. Flynn, La Crosse. Sec., Basic Science Bd., Prof. M. F. Guyer, University of Wisconsin.

Ohio April Reciprocity Report

Dr. H. M. Platter, secretary of the Ohio State Medical Board, reports that 12 physicians were licensed by reciprocity and 1 physician was licensed by endorsement of his credentials. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
George Washington University Medical School		(1920)	Dist. Colum.
Rush Medical College		(1900)	Colorado
University of Louisville School of Medicine		(1912)	Kentucky
University of Michigan Medical School		(1921), (1924) (1924)	Michigan New York
St. Louis University School of Medicine		(1924)	Missouri
Creighton University School of Medicine		(1926)	Nebraska
University of Nebraska College of Medicine		(1926)	Nebraska
Jefferson Medical College of Philadelphia		(1896) (1926)	W. Virginia Pennsylvania
Meharry Medical College		(1921)	Arkansas
College	**ENDORSEMENT OF CREDENTIALS**	**Year Grad.**	**Endorsement with**
University of Michigan Medical School		(1926)	N. B. M. Ex.

Washington January Examination

Mr. George M. Berger, assistant director of the Washington Department of Licenses, reports the written examination held at Seattle, Jan. 16-17, 1928. The examination covered 9 subjects and included 90 questions. An average of 75 per cent was required to pass. Twenty-one candidates were examined, all of whom passed. Thirty physicians were licensed by reciprocity and 1 physician was licensed by endorsement of his credentials. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
University of Colorado School of Medicine		(1927)	84
George Washington University Medical School		(1927)	80
Northwestern University Med. School		(1927) 75; (1928)* 80,	81, 81
Indiana University School of Medicine		(1926)	75
Creighton University School of Medicine		(1927)	80
Cornell University Medical School		(1918)	75
University and Bellevue Hospital Medical College		(1924)	79
University of Buffalo School of Medicine		(1926)	80
University of Oregon Medical School		(1927)	81
University of Pennsylvania School of Medicine		(1927)	80, 86
Medical College of the State of South Carolina		(1924)	78

University of Virginia Department of Medicine.....(1927)	87
McGill University Faculty of Medicine.....(1909)	82
University of Manitoba Faculty of Med....(1914) 80; (1917)	76
University of Toronto Faculty of Medicine..(1922) 79; (1923)	80

LICENSED BY RECIPROCITY

College	Year Grad.	Reciprocity with
College of Medical Evangelists	(1924)	California
George Washington University Medical School	(1907)	Nevada
Northwestern University Medical School	(1925), (1927)	Illinois
Rush Medical College	(1896), (1925)	Illinois
University of Illinois College of Medicine (1919), (1922)	(1892)	N. Dakota
State University of Iowa College of Medicine	(1920)	Idaho
University of Louisville School of Medicine	(1926)	Kentucky
Johns Hopkins University School of Medicine	(1919)	Maryland
University of Michigan Med. School..(1908), (1923),	(1926)	Michigan
St. Louis University School of Medicine	(1926)	Missouri
Washington University School of Medicine (1925) Michigan	(1924)	Missouri
University of Nebraska Coll. of Med..(1922), (1925),	(1927)	Nebraska
University of Oklahoma School of Medicine	(1927)	Oklahoma
University of Oregon Medical School..(1910), (1925),	(1926)	Oregon
University of Pennsylvania School of Medicine	(1920)	Minnesota
University of Virginia Department of Medicine	(1926)	Virginia
McGill University Faculty of Med...(1923) Kansas;	(1924)	Vermont
University of Toronto Faculty of Medicine	(1924)	Penna.

ENDORSEMENT OF CREDENTIALS

College	Year Grad.	Endorsement with
Rush Medical College	(1925)	N. B. M. Ex.

* These candidates will receive their M.D. degrees on the completion of one year's internship in a hospital.

Book Notices

METHODS AND PROBLEMS OF MEDICAL EDUCATION (Eighth Series). Paper. Gratis. Pp. 372, with illustrations. New York: Rockefeller Foundation, 1927.

This deals mainly with the teaching of the subjects of medicine, pediatrics, cardiology and surgery, with one article each on obstetrics and gynecology. There are thirty-seven articles by authors in the field of medicine who are professors in the leading universities in the United States and other countries. The reports are illustrated by building and floor plans of various clinics, hospitals and medical colleges, with other illustrations showing their equipment. From this report one can obtain an excellent comparative idea of the various universities represented, and it should be of much value to officers of medical schools in which the erection of new medical buildings is contemplated.

DIE AKUTE MITTELOHRENTZÜNDUNG ALS KINDERKRANKHEIT. Von Dr. Adolf Fr. Hecht, Privatdozent für Kinderheilkunde an der Universität Wien. Paper. Price, 7.80 marks. Pp. 126, with 23 illustrations. Vienna: Julius Springer, 1928.

Here is an interesting monograph dealing with acute middle ear disease in childhood that is quite unusual. It deals with otitis media from the standpoint of the pediatrician and is replete with facts to a degree seldom seen excepting in the larger handbooks. Anatomicopathologic considerations are only briefly handled, following which the author proceeds to give the most pertinent data on such aspects of the disease as age and sex incidence. The occurrence of otitis media is interestingly considered in such diseases as mumps, scarlatina, diphtheria, pneumonia, influenza, whooping cough, sepsis and tuberculosis. Pain as a symptom is discussed, as well as secretion, and such factors as the duration of the more prominent symptoms in otitides with spontaneous perforation and otitides in which paracentesis was performed. The information contained in this work is highly valuable to the specialist.

STRABISMUS: Its Etiology and Treatment. By Oscar Wilkinson, A.M., M.D., D.Sc., Surgeon in Chief of Washington Eye and Ear Hospital, Washington, D. C. Cloth. Price, $10. Pp. 240, with 120 illustrations. St. Louis: C. V. Mosby Company, 1927.

This volume deals with the etiology, clinical manifestations and variations, and treatment of strabismus. It is divided into twelve main chapters. The literature of the past century is drawn on extensively and quoted at length. The author's own views on the etiology are shrouded in a hazy indefiniteness, so that the reader is left in the air. The clinical manifestations are so well known and clear cut that nothing is added to the accepted views. In the chapter on nonsurgical treatment, the discussion leaves the impression that fully 60 per cent of all cases of strabismus are sooner or later surgical, which is somewhat contrary to modern accepted views. Naturally, a great deal of stress is laid on the operation devised by the author, the description of which was published some years ago. The final chapter is devoted to the details of sixteen fully discussed cases of strabismus with "before and after" illustrations.

DIE WECHSELJAHRE DES MANNES. Von Professor Dr. A. Hoche. Paper. Price, 3.60 marks. Pp. 71. Berlin: Julius Springer, 1928.

In this monograph Hoche takes a stand against the assumption of some authors that there exists a sexual climacteric stage in men similar to the climacterium in women. After having thoroughly considered the somatology and symptomatology subsequent to the elimination of the ovarian functions, the author quotes in full the literature dealing with the existence of a climacteric stage in men. From his point of view, all these assertions are based on erroneous interpretation. There is no change in aging men that could not satisfactorily be explained by the prevailing general senile degeneration without referring to any changes in the gonads. These considerations, according to the author, furnish a theoretical basis for the failure of the attempts to influence favorably the senile decay by the Steinach operation or by the transplantation of testicular tissue.

RECENT ADVANCES IN BIOCHEMISTRY. By John Pryde, B.Sc., M.Sc., Lecturer in Physiological Chemistry, Welsh National School of Medicine, University of Wales. Second edition. Cloth. Price, $3.50. Pp. 379, with 38 illustrations. Philadelphia: P. Blakiston's San & Company, 1928.

The value of this series of "Recent Advances" in medicine and the related sciences is attested by the rapid appearance of the new editions, which enables the series to accomplish its destined purpose. Pryde's contribution to the literature of biochemistry is now presented in its second edition, with the good qualities recommended in the first, and with the necessary additions required to bring it to date. Considerations of the important work of Harington in clearing up the structure of thyroxin, of new contributions on the action of insulin, and of the refinements in knowledge of the vitamins are additions of particular interest to medicine. This book can be recommended cordially to all who wish to keep abreast with recent progress in this important field of science.

AN INTRODUCTION TO THE THEORY AND USE OF THE MICROSCOPE. By C. R. Marshall, M.A., M.D., LL.D., Professor of Materia Medica and Therapeutics in the University of Aberdeen, and H. D. Griffith, B.A., Carnegie Teaching Fellow in Natural Philosophy in the University of Aberdeen. Boards. Price, 3/6 net. Pp. 90, with 32 illustrations. London: George Routledge & Sons, Ltd., 1928.

This is a clear, concise presentation of the fundamental principles involved in the construction and use of microscopes of various types and consequently includes many details of practical importance such as have been hidden away in the comprehensive treatises. Many an experienced microscopist and all students will profit by reading the chapters on resolution, illumination and adjustment. Dark ground technic, the ultramicroscope and spectroscopy are considered. There is a chapter on the physical proofs of certain optical principles.

THE ELEMENTS OF CRIME (PSYCHO-SOCIAL INTERPRETATION). By Boris Brasol, M.A. With introductions by John H. Wigmore, Professor of Law in Northwestern University, and William A. White, M.D., Superintendent of Saint Elizabeth's Hospital, Washington, D. C. Cloth. Price, $5. Pp. 433, with illustrations. New York: Oxford University Press, 1927.

The purpose of this study is to give a clear understanding of crime itself, its nature, genesis, growth and outward manifestation. The egocentric tendency in the individual, the author maintains, is the underlying cause of crime. Nevertheless, environment and the broad social background exert a great influence on the genesis of criminality. Each of the social factors which are commonly cited as causes of crime—poverty, decline of family life and religion, influence of the press, and lack of proper legislation—is considered in turn and the situation summed up thus: "Crime is neither the result of any one single antecedent nor even the arithemetical sum total of several constituent elements entering into the criminogenic process, but the result of the complex interrelationship of many factors." The author proceeds to analyze next the psychophysical or individual aspects of crime. (One might take issue

V 90
1928

with him on the use of the word "biopsychic.") Bad heredity, he says, does not originate specific psychopathologic predispositions or mental diseases, but rather a sort of psychologic background which under certain favorable conditions may lead to antisocial conduct. He warns against the popular present-day tendency of treating all crime and delinquency as a form of psychic disease. In considering the whole problem of criminal responsibility and mental disorder, he emphasizes an important concept of modern psychopathology, namely, that no act of an individual is a disconnected phenomenon but always a part of the general picture. Therefore, in order to understand the motive or origin of a crime one must know the social and psychophysical background of the criminal. This is in accord with the modern doctrine of treating the individual rather than the crime he commits. The merit of this book consists not in the presentation of any new or revolutionary suggestions for dealing with crime but rather in the well balanced, comprehensive manner in which the author weighs the views of the various specialists in this field. He is acquainted with the doctrines of the sociologist, the economist, the psychologist, the psychiatrist and the lawyer, and presents an impartial evaluation of the weight of each in the solution of the problem of criminality.

ERGEBNISSE DER MEDIZINISCHEN STRAHLENFORSCHUNG: (RÖNTGENDIAGNOSTIK, RÖNTGEN-, RADIUM- UND LICHTTHERAPIE). Band III. Herausgegeben von H. Holfelder, H. Holthusen, O. Jüngling, und H. Martius. Paper. Price, 68 marks. Pp. 791, with 613 illustrations. Leipzig: Georg Thieme, 1928.

In the first of this series of special articles Steurer emphasizes the importance of roentgenologic exploration of the nose and its adventitious cavities. He considers this method indispensable; moreover, it neither molests the patient nor involves any disagreeable side-effects. Essential for diagnostic success is a properly developed technic, an important item being photography in various projections. The details of these exposures are described and illustrated. In an introductory comment on the diagnostic portraits of the various nasal disorders, the causes of errors and their avoidance are discussed. The second chapter deals with roentgenography of the ear, the main value of which is considered to be the demonstration of the structural conditions of the healthy and diseased mastoid. The technic of the Tübingen clinic is given in detail. The author presents negative reproductions in order to facilitate comparison with pictures of his own. A description of the individual variations of the healthy mastoid precedes the chapters containing the discussions and illustrations of the observations of pathologic conditions, such as acute otitis and mastoiditis, chronic otitis media, cholesteatomas, tumors of the middle ear and of the mastoid, and atresia of the meatus auditorius and the cavum tympani.

Mayer demonstrated the exact location and extent of abscesses in the temporal lobe by injecting iodized oil and then taking sagittal and frontal roentgenograms. The third chapter deals with the roentgen-ray diagnosis of tumors of the auditory nerve, which are considered to be the most frequent growths occurring in the niche formed by the cerebellum, the pons and the medulla oblongata. They are often operable. The next chapter is devoted to the etiology, anatomy, symptomatology and method of repair of fractures of the petrosa. For the exact localization of metallic foreign bodies imported by stabbing or shooting, the stereographic procedure of Blau is recommended.

Brauer and Lorey maintain that plain roentgenography of the bronchi does not furnish complete information. Results are satisfactory only if a contrast fluid is employed. For the introduction and development of this combined method, they give credit to Jackson, Sicard and Forestier. As contrast fluid oils are universally employed containing bismuth in suspension or iodine in a fixed condition, so that it is slowly liberated. In order to introduce the iodized oil into the trachea and bronchi, either the glottis or the puncture of the trachea is available; the latter is not free from considerable danger and therefore is better avoided. For the introduction through the glottis of the iodized oil, the upper air passages are anesthetized with procaine hydrochloride. Then either the patient drinks the emulsion, part of which on account of the local anesthesia will run down into the larynx and trachea, or the emulsion is directly injected into the air passages by laryngoscopic manipulations. Following these applications, a posture of the patient is chosen which will enhance the deposition of the fluid in the desired region. This method often is unsatisfactory for the upper and median parts of the bronchial tree. For a reliable and exact deposition of the contrast fluid, procedures have to be employed that are developed on the basis of corresponding bronchoscopic manipulations. With the help of this exact technic, characteristic pictures were obtained. Of great practical value are the pictures developed after various thoracoplastic operations. Untoward results produced either by local anesthesia or by the action of the iodine are discussed, and the authors caution against an indiscriminate routine employment of this method of examination.

Teschendorf discusses the roentgenoscopy of the esophagus. Its normal anatomy and functional acts are visualized by means of roentgenograms. Pictures illustrate all the known pathologic conditions.

Dillon discusses persistent unilateral elevation of the diaphragm, the diagnosis of which may be established with certainty.

Tuberculosis of the intestine as expressed in the roentgenogram is extensively discussed by Fleischner. Exact diagnosis is important because tuberculosis is the most frequent of all specific infections of the intestinal tract. This monograph is one of the most complete essays on this intestinal order.

The cecal appendix in its roentgenologic demonstrability is the subject of the chapter written by Gottheiner. The author successfully refutes all the objections to this method of examination. After extolling his technic he describes the appearance of the appendix under normal and pathologic conditions. He summarizes the differential diagnostic points and hopes that systematic employment of the method will do away with the majority of unsuccessful operations on the appendix.

D'Amato emphasizes the value of employing contrast fluid in the roentgenoscopy of the gallbladder. Following the example of Graham and Cole, he recommends tetraiodophenolphthalein. The intravenous method is the one preferred for making the injection. An instructive item of this monograph is a consideration of the roentgen-ray anatomy of the normal gallbladder.

The roentgen-ray diagnosis and treatment of pulmonary echinococcosis is dealt with by N. Stern. The author claims for the roentgen-ray examination a prominent place among the diagnostic methods for detecting this disorder which is more frequent than is generally believed. The roentgen-ray examination permits not only the location of the cysts but also the recognition of the stages of development. An early examination is paramount because complications of the later stages are apt to interfere with the interpretation of the pictures. So far, roentgen-ray therapy has failed to produce any tangible results.

Schinz and Slotopolsky discuss the reaction of the skin to the roentgen rays. Photomicrographs illustrate the changes in the various layers of the skin produced by irradiation. The authors maintain that all the reactions, including the primary erythema, are manifestations of inflammatory processes. According to them, the cellular changes are primary and the vascular changes are secondary.

The influence of light rays on the metabolism is considered by A. Lippman.

The basal fibroid, the nasopharyngeal polyp of the older authors, is a favorable object for radiotherapy, according to E. Schempp. Untoward side-effects may be avoided by employing a proper technic. The author does not hesitate to recommend radiotherapy in every case of basal fibroid, at least as a successful attempt at cure. He considers radiotherapy the method of choice.

Medical diathermy in gynecologic disorders is discussed by L. Schoenholz. The author follows the presentation of this topic as laid down by Nagelschmidt and Kowarschick in their textbooks.

The value of the articles is enhanced by the completeness of the literary references.

MENTAL TESTS IN CLINICAL PRACTICE. By F. L. Wells, Ph.D., Chief of Psychological Laboratory, Boston Psychopathic Hospital. Cloth. Price, $1.16. Pp. 315. New York: World Book Company, 1927.

In these days, when mental tests are being given by the thousand in schools and colleges and institutions, there is grave danger that the individual and the individual method of examination will be overlooked. It is the author's purpose to emphasize the importance of studying each individual as well as to give in detail the technic involved in the use of mental tests. The practical point of view of the author resulting from his rich clinical experience, coupled with sound psychologic knowledge and thorough acquaintance with the mental test literature, gives the book a distinct value. The book includes a detailed analysis of the technic involved in the clinical use of some of the more common tests of general intelligence; a chapter on a "method of memory examination adapted to psychotic cases," and discussions of word association tests, of the relation between vocational adjustment and psychometric methods, and of other phases of mental testing. For the student preparing for advanced work in this field, it will prove a valuable supplement to other works on mental tests.

EL BOCIO Y EL CRETINISMO. Estudio sobre la epidemiología española y la patogenia de esta enfermedad. Por Gregorio Marañón. Paper. Pp. 189, with 26 illustrations. Madrid: Editorial Paez, 1927.

This book gives available though incomplete vital statistics of goiter in Spain, based on data furnished by physicians of the different districts. The author regrets the discontinuance of the *Index Medicus Hispanus* formerly published by Dr. Pascual. Goiter he considers a problem of civilization, since poverty and isolation form the basis for all goiter epidemics. The solution of the problem concerns the physician, but it should be carried out by the state. Marañón made a thorough study of an isolated district in Spain, called Las Hurdes, where poverty predominates. Insufficient animal vitamins from meat, especially fresh meat, milk and its derivatives and eggs, he thought, contributed to the causation of goiter. Cancer of the thyroid gland is comparatively rare in Spain. According to statistics of the Instituto del Cáncer de Madrid, among 1,142 tumors of different kinds and organs only seventeen were located in the thyroid gland. In any of the big surgical centers of Madrid, fewer patients with goiter are operated on than in similar centers of other countries. In the Provincial Hospital of Santander the average number of thyroid operations is five or six among 12,000 operations performed every year. The author thinks that to include goiter among thyroid disturbances would be as inaccurate as to include pellagra among dermatoses.

A TEXT-BOOK OF INFECTIOUS DISEASES. By E. W. Goodall, O.B.E., M.D., B.S., Vice-President of the Section of Epidemiology and State Medicine of the Royal Society of Medicine. Third edition (of Goodall and Washbourn's Manual of Infectious Diseases). Cloth. Price, $10. Pp. 718, with illustrations. New York: William Wood & Company, 1928.

This work is really a revised and in large part rewritten edition of Goodall and Washbourn's manual, the second edition of which came out nineteen years ago. It is written almost entirely from the point of view of the clinican. Bacteriologic technic is omitted, but a clear account of the bacteriologic etiology of infectious diseases is given. In such diseases as epidemic poliomyelitis, in which the causative organism has not been determined, a brief summary of the results of the various investigators is given in an unprejudiced manner. In scope, this book covers the infectious diseases of known and unknown etiology that are commonly found in the temperate zone in western Europe and America. Plague, cholera and other infectious diseases no longer found in these regions, the tropical diseases, malaria and dengue fever are not considered. The discussion of the diseases from the clinical, etiologic and pathologic points of view and the methods of treatment outlined are down to date and show a thorough knowledge of the literature.

DIE ALLGEMEINEN PATHOMORPHOLOGISCHEN GRUNDLAGEN DER TUBERKULOSE. Von Dr. W. Pagel. Paper. Price, 12 marks. Pp. 175. Berlin: Julius Springer, 1927.

This book contains a review of theories on the pathogenesis of tuberculosis from early times to the present, with especial stress on the modern views of Ranke, Aschoff, Ghon and others, and with a convenient and concise summary of recent German conceptions in tabular form.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

A TEXT-BOOK OF BIOLOGIC ASSAYS. By Paul S. Pittenger, Ph.G., Ph.C., Ph.M., Instructor in Biologic Assaying, Philadelphia College of Pharmacy and Science. Second edition. Cloth. Price, $3 net. Pp. 373, with 153 illustrations. Philadelphia: P. Blakiston's Son & Company, 1928.

Methods used to determine actions of drugs on living organisms.

THE FOUNDATIONS OF NUTRITION. By Mary Swartz Rose, Ph.D., Professor of Nutrition, Teachers College, Columbia University. Cloth. Price, $2.75. Pp. 501, with 86 illustrations. New York: Macmillan Company, 1927.

A sound book on the elements of our new knowledge of nutrition and dietetics.

PHOTOMETRIC CHEMICAL ANALYSIS (COLORIMETRY AND NEPHELOMETRY). Volume I. Colorimetry. By John H. Yoe, Ph.D., Professor of Chemistry, University of Virginia. Cloth. Price, $8.50 net. Pp. 771, with 72 illustrations. New York: John Wiley & Sons, Inc., 1928.

Highly technical guide to new methods of chemical study.

THE MIND OF THE GROWING CHILD. Edited by Viscountess Erleigh. With a preface by Sir James Crichton-Browne. Cloth. Price, $1.75. Pp. 229. New York: Oxford University Press, 1928.

Another suggestive work on child study and the establishment of proper social relationships.

HOW TO START IN GENERAL PRACTICE: Being Practical Advice for the Newly Qualified. By Isaac G. Briggs, M.R.C.S., L.R.C.P. Cloth. Price, 6/- net. Pp. 158. London: John Murray, 1928.

Giving the young man important suggestions on little discussed aspects of medical care.

SEXUAL APATHY AND COLDNESS IN WOMEN. By Walter M. Gallichan. Cloth. Price, $2.50. Pp. 183. Boston: Stratford Company, 1928.

Well written and sound presentation of modern views on sexual frigidity.

SIR ISAAC NEWTON, 1727-1927. A Bicentenary Evaluation of his Work. A Series of Papers Prepared Under the Auspices of the History of Science Society in Collaboration with the American Astronomical Society, the American Mathematical Society, the American Physical Society, the Mathematical Association of America and Various Other Organizations. Edited by Frederick E. Brasch. Cloth. Price, $5. Pp. 351, with 1 portrait. Baltimore: Williams & Wilkins Company, 1928.

DENTAL STATE BOARD QUESTIONS AND ANSWERS. By R. Max Goepp, M.D., Professor of Principles and Practice of Medicine and of Clinical Medicine at the Woman's Medical College of Pennsylvania. Fourth edition. Cloth. Price, $4.50 net. Pp. 463. Philadelphia: W. B. Saunders Company, 1928.

ONDERZOEKINGEN GEDAAN IN HET PHYSIOLOGISCH LABORATORIUM DER RIJKSUNIVERSITEIT TE UTRECHT. Voortgezet en uitgegeven door H. Zwaardemaker. Zesde reeks. Deel VIII. Paper. Pp. 194, with illustrations. Utrecht: A. Oosthoek, 1927-28.

DIE HIRNTÄTIGKEIT DES SÄUGLINGS. Von Dr. Albrecht Peiper, Privatdozent, Assistent an der Universitätskinderklinik, Berlin. Paper. Price, 4.80 marks. Pp. 102, with 22 illustrations. Berlin: Julius Springer, 1928.

ENTSTEHUNG UND ENTWICKLUNG DER LUNGENSCHWINDSUCHT DES ERWACHSENEN. Von Franz Redeker, und Otto Walter. Paper. Price, 15 marks. Pp. 143, with 105 illustrations. Leipzig: Curt Kabitzsch, 1928.

THE NEW YORK ACADEMY OF MEDICINE LECTURES ON MEDICINE AND SURGERY. [First Series, 1927]. Cloth. Price, $5. Pp. 319, with 39 illustrations. New York: Paul B. Hoeber, Inc., 1928.

THE ROCKEFELLER FOUNDATION. A Review for 1927. By George E. Vincent, President of the Foundation. Paper. Pp. 53, with illustrations. New York: The Rockefeller Foundation, 1928.

LE RÉTRÉCISSEMENT MITRAL DANS SES RAPPORTS AVEC L'ETAT PUERPÉRAL. Par J. Séjourné. Paper. Price, 25 francs. Pp. 156, with 26 illustrations. Paris: Gaston Doin & Cie, 1928.

DIE ERKRANKUNGEN DER BLUTDRÜSEN. Von Professor Dr. Wilhelm Falta. Second edition. Paper. Price, 42 marks. Pp. 568, with 107 illustrations. Berlin: Julius Springer, 1928.

LO QUE EL MÉDICO NO DEBE HACER. Por Ricardo D. Alduvin, médico de las Universidades de México, Guatemala, Honduras y Nicaragua. Paper. Pp. 259. Guatemala, 1927.

V 90
1928

Medicolegal

Patient Escaping from Restraining Sheet—Open Window

(Illinois Cent. R. Co. v. Cash's Adm'x (Ky.), 209 S. W. R. 590)

The Court of Appeals of Kentucky, in reversing a judgment rendered in favor of the plaintiff administratrix, says that her husband was an employee of the defendant railroad company and, being stricken with pneumonia, was admitted to a hospital conducted by the Illinois Central Hospital Department, a separate organization. Assuming, however, that the railroad company operated and controlled the hospital and that the latter was not a charitable institution, the court holds that the case as presented should not have gone to the jury. The evidence showed that the patient while under a restraining sheet escaped from it and jumped through a second story window, which was open at the time, thereby sustaining serious injuries. He died the following day. It was shown that those in charge of him knew of his delirious condition prior to the time of his death, but that knowledge alone did not establish negligence, unless the defendant failed in some duty after learning of that delirious condition.

Negligence was charged in an alleged refusal of the defendant to allow relatives of the patient to stay with and aid in the case and attention necessary to protect him from injury to himself, but the court found no evidence in the record which could be considered as establishing negligence under this head. It was true the evidence disclosed that his mother requested permission to remain in his room during the night on which the tragedy occurred, but she did not offer as a reason for her request, if it was made, that she desired to furnish him any care or attention which would prevent his bringing about an injury to himself. Certainly it would be no more than a surmise or speculation to say that, if the mother had been allowed to remain with the son during the night, he would not have received his injury. He was unconscious and delirious, or, at least, he was delirious to such an extent that he did not know or recognize any one.

Another ground of negligence relied on was that the defendant failed to provide competent or sufficient nurses or attendants to care for the patient or to prevent him from causing injury to himself. But there were a sufficient number of competent nurses to look after and care for the patient, unless something unusual and unforeseen should happen, and this court does not believe that it could be well said that the defendant was called on to provide against the happening of something which could not be anticipated or foreseen.

It was argued that the fact of the patient's escape showed that the restraining sheet was not sufficient for that for which it was intended, or that it was negligently placed on him. In the court's opinion that was the nearest approach to negligence established. But how could any jury do more than to surmise or speculate as to how he escaped from the restraining sheet? A jury is not allowed to surmise or speculate about such matters. The fact that he escaped, it might be said, was a circumstance from which negligence might be inferred, but this court does not think so, because at least one of the physicians familiar with the use of such restraining sheets testified that sometimes patients escaped from them, although he could not explain how such escape could be effected. Assuming that the escape from the restraining sheet was a circumstance from which negligence could be inferred, still that was not enough. The question was, Would a man of ordinary prudence under the same or similar circumstances have anticipated, if the patient did escape from the restraining sheet, that without warning he would immediately spring over the screen between his bed and the window and out of the window to the pavement below? The defendant was not an insurer against any and all accidents, but could only be held to the exercise of ordinary care. The usual and ordinary thing was done for the patient's protection, and there was nothing to indicate that more was required. It was true he had been violent; but violence does not indicate a suicidal mania, or that a patient will jump out of a window. The court is persuaded that the act of the patient in this instance was unusual and extraordinary and was something which would not have been foreseen by an ordinarily prudent man in charge of such a patient. It was suggested that wristlets and anklets which were on hand might have been used; but the evidence showed that the restraining sheet was just as effective, and that it was the better practice to use it.

Again adverting to the rule that a defendant is not to be held liable for an injury which an ordinarily prudent man would not have foreseen, this court must hold that there was no negligence in leaving the window open. The evidence established that modern methods of treating pneumonia cases require ventilation, and that it was proper to leave the window open.

Hospital Not Shown Liable for Acts of Surgeon

(Pikeville Methodist Hospital v. Donahoo (Ky.) 299 S. W. R. 159)

The Court of Appeals of Kentucky, in reversing a judgment of $5,000 damages which was rendered in favor of plaintiff Donahoo against the defendant hospital, says that the plaintiff, having fractured his right arm between the elbow and the shoulder, was placed in the hospital and put under the care of a surgeon for treatment. The plaintiff alleged that the surgeon had negligently placed on his forearm and hand an electric heating appliance which burned the flesh so that the skin and flesh quickly fell off and the surgeon was thereby caused to wrongfully amputate the arm between the elbow and the shoulder joint. The negligence alleged was directed at the negligence of the surgeon, but the case was dismissed as to him and tried as to the defendant hospital. However, unless the surgeon was the agent or servant of the hospital there was no negligence alleged against the hospital. In an answer which the surgeon filed, he stated that he was employed by the employer of the plaintiff to render surgical aid to the plaintiff, and that he did so by giving his injuries the necessary surgical attention in accordance with the generally accepted practices of modern surgery; that after having so treated the injuries of the plaintiff he was discharged from the hospital; and that the plaintiff himself was then guilty of such negligence and carelessness in failing and refusing to comply with the instructions given him as to bring about an infection which made necessary the amputation of his arm.

The trial court refused to give the jury an instruction offered by the defendant hospital to the effect that if the jury believed from the evidence that the plaintiff was negligent in that he violated the instructions of the surgeon and as a result thereof his wounds became infected, and that his negligence contributed to his injury to such an extent that but for said negligence his arm would not have been amputated, the jury would find for the defendant. Under the evidence in the case, the hospital was entitled to substantially this instruction, and it was error not to give it. Strictly speaking, it should not be denominated contributory negligence on the part of the plaintiff if he failed to follow the instructions of the surgeon, but if his failure to follow the instructions of his surgeon was the cause of the amputation of his arm, the hospital should have had that defense presented to the jury.

The verdict of the jury in favor of the plaintiff was not supported by the evidence, as there could have been no verdict in his favor unless the evidence disclosed that the surgeon had charge of the hospital and was acting for it as its physician and surgeon at the time he performed the operation. The proof did not show that he had charge of the hospital or that he was acting for the hospital at the time he rendered surgical assistance to the plaintiff. In its humanitarian work—the hospital work—the hospital accepted patients who were sent to it, and the surgeons who performed operations in the hospital were not in charge of the hospital, nor were they the agents or employees of the hospital. This court found no proof in the record which contradicted the positive evidence of the surgeon that he was not employed by the hospital.

It is true that a purely charitable institution is not amenable to its patients for any damages which they may have sustained growing out of alleged negligence, although such negligence might consist in the violation by the hospital of

some duty imposed either by an expressed or an implied contract. But under the state of the pleadings in this case, the defendant hospital was not in position to take advantage of that doctrine. There was no plea by the hospital that it was a charitable institution, created, organized and existing solely for charitable purposes, which purposes were the taking care of, nursing and looking after the sick and wounded, although the charter of the corporation appeared in the record, showing that it was that character of institution.

Society Proceedings

COMING MEETINGS

American Hospital Association, San Francisco, August 6-10. Dr. Bert W. Caldwell, 18 East Division Street, Chicago, Executive Secretary.
Pacific Northwest Medical Association, Tacoma, Washington, July 5-7. Dr. Frederick Epplen, 511 Olive Street, Seattle, Secretary.
South Dakota State Medical Association, Hot Springs, August 7-9. Dr. John F. D. Cook, Langford, Secretary.
Utah State Medical Association, Ogden, June 29-30. Dr. M. M. Critchlow, Boston Building, Salt Lake City, Secretary.

ASSOCIATION OF AMERICAN PHYSICIANS

Forty-Third Annual Meeting, held at Washington, D. C., May 1-3, 1928

The President, DR. A. S. WARTHIN, Ann Arbor, Mich., in the Chair

Relation Between Cardiac Size and Cardiac Output per Minute Following Administration of Digitalis in Dogs

DR. A. E. COHN, New York: We trained dogs to lie on a dog board without moving while the size of the heart was photographed. We noted that before digitalis the excursion of the right and left ventricle were much increased. The size of the heart is descreased by digitalis. The effects came back to the base line about the tenth day. In some cases the early history was the same, but later incidents differed. The effect on contraction was longer than that on the tone and size of the heart. The result was that the volume output was increased the first few hours, and later decreased. These effects depend on the mechanism of tone and have no effect on contraction. We found that there was no sedative effect but really one of stimulation by: the effect on (1) tone, (2) contraction, (3) volume output, (4) the vagus and (5) intraventricular pressure. Whether digitalis does good depends on the whole amount, rather than on individual factors. If it diminishes breathlessness, pain and edema, its use is justified. In estimating the effect on tone, contraction and volume output, we must be more careful as the comprehensiveness of our data decreases.

DISCUSSION

DR. FRANCIS WILLIAMS, Boston: Experiments have been done on the hearts of frogs which show that although the beats were slowed the amount of blood increased rather than diminished. More blood passed through the circulatory system when the beats were slower. This work was done in 1879.

Determination of Cardiac Hypertrophy by Roentgen-Ray Methods

DR. J. A. E. EYSTER, Madison, Wis.: Studies were made of normal and hypertrophic hearts in the area of the frontal plane. A combination of roentgen-ray mensuration and the frontal plane silhouette observations of the retrocardiac space in the lateral plane visual localization, and estimation of the force of the cardiac muscles, will give a determination of the presence or absence of hypertrophy of the left ventricle in nearly all instances. Such hypertrophy as is determined and encountered clinically never occurs except in organic disease of the heart. Clinical methods will differentiate a high percentage of cases, but the roentgen ray is a valuable adjunct.

DISCUSSION

DR. W. W. HAMBURGER, Chicago: I should like to know what Dr. Eyster noted in regard to the transverse diameter of the heart in persons with a high diaphragm.

DR. J. A. E. EYSTER, Madison, Wis.: We have found that the weight has less influence than the height. The transverse diameter is more affected by the weight than by the height. The heavier the person, the higher the diaphragm and the shorter the pleura.

Experimental Pericarditis

DRS. J. H. MUSSER and G. R. HERRMAN, New Orleans: We have had the experience of having patients with pericarditis, in whom adhesions were not found during life but were revealed at autopsy. It should be necessary to make the diagnosis ante mortem. We therefore undertook an experimental study on the goat. We produced anterior mediastinitis with felspar aleuronat. It was difficult to produce pericarditis without mediastinitis. Pulsus paradoxus resulted but there were no neck signs. We then tried Cohn and Stewart's method of following the border, and we believe that the roentgen ray should be helpful in these cases. Postmortem studies showed acute purulent pericarditis but no increase, except that caused by slight edema. With pericardial obliteration there was increase of weight. In pure pericarditis without mediastinitis, the ratios were nearly normal, but there was slight right ventricular preponderance. With obliteration and with mediastinitis, there was hypertrophy, which was less without mediastinitis. Hypertrophy is of some significance. The diagnosis is difficult but we hope to find some pathognomonic sign in this disease, particularly by the roentgenofluoroscopic examination.

DISCUSSION

DR. A. E. COHN, New York: As far as electrocardiographic signs go, these may be different in dogs and in man. In dogs the heart lies in the cephalocaudal plane. In man it is internal to this line. This shift will modify the result of these experiments for man, as regards the mediastinum. The long diameter of the heart is different in man and in animals.

DR. W. S. THAYER, Baltimore: Most cases of adherent pericardium are recognized at autopsy. We should think of the possibility of this condition in every heart we examine and then we would make a great many more diagnoses than we do. We should study particularly the mobility of the heart.

DR. EMANUEL LIBMAN, New York: The lateral adhesions outside (pericarditis externa or mediastinopericarditis) are often more significant than the simple binding together of the two layers of the pericardium. In the literature there is a description of a case in which one adhesion obstructing an important vein was the cause of the whole clinical picture and of the fatal issue. Ortner pointed out very clearly the difficulties in diagnosis between chronic pericarditis and organic tricuspid lesions. In a case in which I was in doubt as to whether or not there was present an organic tricuspid lesion, pericarditis or subacute bacterial endocarditis in a bacteria-free stage, all three conditions were found at the postmortem examination.

DR. G. R. HERRMAN, New Orleans: In the present age of cardiac surgery, the diagnosis is of great importance if surgical intervention is to be undertaken.

Relation of Hypertension to Mitral Stenosis

DRS. S. A. LEVINE and M. N. FULTON, Boston: In a study of persons over 45, with mitral stenosis and with elevated blood pressure, it is shown that those with high blood pressure live longer than those with normal blood pressure. In a study of 762 cases of mitral stenosis, divided as those above and those below 45 years, with the mitral valve alone involved, and showing hypertension (systolic pressure over 150; diastolic over 90), 159 persons survived after 45, some after 60 years. Seventeen came to autopsy and in these there was definite mitral stenosis. We have also included living patients in whom the diagnosis of mitral stenosis was certain. Of 162 patients, 159 lived past 45 years. Thus, one patient out of five will live past the fifth decade. The average age was 53. Arteriosclerosis was seen chiefly in older patients, and rheumatic infection chiefly in a younger group. An analysis of the blood pressure showed that persons under 25 with mitral stenosis had blood pressure below normal. Above 25, the blood pressure is definitely raised, about 45 mm. above the average. In

V 90
1928

these cases the average blood pressure was 160 systolic, and 86 diastolic.

One explanation seems to be that rheumatic infection occurs to persons with a vulnerability of the circulatory system. Rheumatic infection occurs in children whose parents have arteriosclerosis or coronary thrombosis.

What is the progress of the disease after congestive symptoms have developed? The patients do very well on rest and treatment, and those who develop elevated pressure seem to do better. This mechanism is explained by widening of the mitral orifice, which tends to counteract the mitral stenosis. Another theory is that the added load of the left ventricle may counteract the added load of the right ventricle. Analysis shows that mitral stenosis with hypertension is more common in women than men.

Persistence of the Mitral Presystolic Murmur in the Presence of Auricular Fibrillation

DR. CARY EGGLESTON, New York: Since McKenzie's day it has been accepted that a presystolic murmur does not exist in auricular fibrillation. Also it has never been recorded in this condition. Perhaps the murmur is due to slow regurgitation through the valves. Some workers think that a mitral presystole is due to the auricular system. Clinical observation by ausculation in patients with auricular fibrillation and mitral lesion showed that in all there was a murmur through presystole, gaining crescendo toward its termination. I therefore examined the mechanism of the crescendo termination, and I have been able to demonstrate this to students. The explanation is that of a jet through the constricted orifice. The jet increases as stenosis increases. In mitral stenosis ventricular filling is delayed and very inadequate. Therefore, pressure of both sides of the mitral ring is in favor of a jet, and one gets the delusion of a short murmur continuing throughout presystole. When diastole is long, it dies out rather than stops. When diastole is short, the crescendo depends on the relation of the murmur to the loud first sound. If auricular systoles are not responsible, we can adopt the explanation of the relationship between the murmur and the first sound rather than the one usually given of auricular presystole, in which there is normal regurgitation through the cusps.

DISCUSSION

DR. S. A. LEVINE, Boston: My definition of a presystolic murmur differs from that of Dr. Eggleston. I think that it is related to the first sound of the heart, not the second sound. No matter how long diastole may be, the murmur will be in front of it. If the rate is 100, nothing is heard in the long diastolic pause. Why should we not consider this as a murmur that begins in early diastole? Why is that not a diastolic murmur? Presystole is a murmur, no matter how long diastole may be. If we have this definition of presystolic murmur, it does not persist when auricular fibrillation takes place.

DR. WILLIAM S. THAYER, Baltimore: I have never used the term presystolic murmur in my teaching. I agree with Dr. Eggleston that there is a mitral diastolic murmur, and that it is characteristic in its nature, in the area where it is heard, and in the time that it begins. It begins with the passage of the blood from the auricle to the ventricle. It is heard at the time of the normal first sound in younger persons. I have convinced myself that it is rarely crescendo, except at the beginning. The phenomenon is like that of the cracking of a whip. It is followed by a short snap. I think the term presystolic murmur as used in England and in Germany is wrong. I never use it.

DR. EMANUEL LIBMAN, New York: The best general description of the murmurs of mitral stenosis is that given by Bard. I think it is of value in teaching to adopt the terms which he employs for the murmurs which occupy only one part of the diastole. Instead of the typical auscultatory signs being present, the murmur may be heard only in early diastole (protodiastolic), not directly after the second sound and not leading up to the first sound (mesodiastolic), and directly before the first sound (presystolic).

DR. ALRED E. COHN, New York: I can remember some evidence given by Sir James MacKenzie in 1909 when I worked under him in the wards. We had one boy with mitral stenosis, who had a distinct presystolic murmur. We were giving the boy digitalis, and I made the tracings. One Sunday the boy developed heart block. A presystolic murmur could be heard with a long first and second sound. I called Dr.. MacKenzie and he found the case so interesting that we dispatched a letter to the *British Medical Journal* immediately. In that case Dr. MacKenzie thought that the murmur was due to systole of the auricle. That seems to be crucial. I agree with the views of Dr. Levine, but what makes the murmur of mitral stenosis? Is it the auricle, or is it not? We may have to call murmurs in diastole by a different name according to some of the speakers, but I am convinced that the auricle is responsible in its contraction for at least one of these murmurs.

DR. LEWIS A. CONNER, New York: I agree with the view expressed by Dr. Levine. I think some of the speakers have lost sight of the point. Dr. Eggleston emphasized that when the diastolic murmur is carried up to the next first sound there is a thud and a delusion of a murmur with a crescendo character, although this crescendo does not actually exist.

DR. W. W. HAMBURGER, Chicago: How does Dr. Eggleston explain the change in the character of the murmur when sinus rhythm is restored?

DR. CARY EGGLESTON, New York: It is true there are two very different murmurs. There is an isolated presystolic murmur due to auricular systole. There is another murmur beginning early in diastole, and both are the murmurs of mitral stenosis. I think that the textbooks on physical diagnosis, and physicians as well, do not differentiate between these two types of mitral diastolic murmurs. The importance of differentiation lies in two points. The long murmur is significant and gives a high degree of mitral stenosis, while the short murmur is indicative of a mild degree of mitral stenosis. Secondly, I have found that physicians are not willing to make a diagnosis of auricular fibrillation because they heard a murmur terminating with a crescendo in the rapidly beating heart. I think that this matter should be settled so as to enable us to talk about the same thing and avoid confusion of meanings.

Mechanism of Heart Failure

DRS. G. CANBY ROBINSON and C. S. BURWELL, Nashville, Tenn.: In heart failure it is understood that there is alteration of the dynamics of the circulation, but there is no certain basis of knowledge. It is supposed that the heart is not able to pump enough blood to meet metabolic needs. It is however, inadequate only in some cases, so this explanation does not explain or justify heart failure when the blood accumulates in the venous system. Heart failure is a disintegration of the normal activities of the two ventricles. To improve the heart we must improve coordination between the right and left sides. The heart is a very adaptable organ and in the normal heart the amount of blood can be regulated from one ventricle to another. When the heart is injured the adaptability of the heart to rapidly changing conditions is diminished. Interference with one ventricle produces interference with the relationship to the other.

DISCUSSION

DR. FRANCIS WILLIAMS, Boston: I wish to suggest that some of the examinations of the heart might be made simultaneously by means of the fluoroscope and the stethoscope. I did this in 1896 and 1897 and found it an interesting method of research. Dr. Rollins of Boston devised a very simple instrument by which this combination examination could be carried out.

DR. EMANUEL LIBMAN, New York: Did the right coronary artery show any changes? There are many causes for right sided insufficiency. One of the most important, but much overlooked, is narrowing or complete stenosis of the right coronary, especially at its origin at the aorta. These cases do not give any decisive indications on physical examination of the heart. A markedly enlarged liver may be the only clinical evidence, and in the absence of any other discoverable cause one may suspect narrowing of the right coronary artery. The diagnosis

is more secure in those cases in which a sino-auricular block is also present. In cases of left-sided valvular defects, rheumatic or atherosclerotic, right-sided insufficiency may develop early because of such obstruction of the right coronary artery. The clinical picture is particularly striking when the valvular defect is an aortic stenosis.

Clinical Significance of Cardiac Asthma

DRS. P. D. WHITE and R. S. POLMER, Boston: Cardiac asthma shows paroxysms of acute dyspnea, usually occurring at night or after exertion. It is due fundamentally to serious heart disease. It is relieved by the upright position and by morphine. The symptoms are choked respiration, a bloody, frothy sputum and acute, suffocative pulmonary edema. Sir James MacKenzie considered it related to Cheyne-Stokes breathing. In syphilitic cases cardiac asthma indicates early and fatal termination. In the hypertensive and arteriosclerotic group, cardiac asthma is consistent with a longer life. Like coronary occlusion, it is more common among males, and the mortality among males is greater. It occurs chiefly in the fifth decade of life, but it can occur as early as 18. The mortality is higher as age advances. The relation of the age of onset of cardiac disease to that of cardiac asthma does not seem to be significant. The duration of life after the onset of cardiac asthma averages three years, but fifteen years' duration has been noted as the longest. When attacks are very frequent, an early death may be expected. Cardiac asthma is associated most commonly with aortic regurgitation, perhaps because of the high proportion of syphilitic cases associated with this lesion. When gallop rhythm or pulsus alternans are noted, the prognosis is grave. Morphine is almost specific. If the patient is not relieved by morphine, the disease is allergic asthma. If epinephrine does not give relief, we must look for cardiac asthma. There has been an association of allergic asthma with cardiac asthma in five cases. Rest, digitalis diet, elimination of fluid, morphine and nitrates afforded marked relief in 129 cases. There was no improvement in thirty-three cases. Venous section gave definite relief in the cases in which it was tried. Coronary disease was the most frequent condition found at autopsy. No patient fulfilled the average duration of life. Most died in from one to three years after the first attack. Syphilis occurred in 21 per cent of the cases and chronic nephritis in 18 per cent.

DISCUSSION

DR. THOMAS MCCRAE, Philadelphia: It may seem a small matter to quibble about the terminology, but the term cardiac asthma is a most unfortunate one. The disease is a paroxysmal cardiac dyspnea. This term expresses the condition—why not use it? The word asthma is used to express bronchial asthma and if a disease is called asthma it is apt to be treated as such. A diagnostic term is like a nickel put in the slot. One puts it in and a certain treatment falls out. When the word asthma leads to the administration of epinephrine, it is a very unfortunate term in such conditions as this. I should like to emphasize the usefulness of morphine. This disease often has a crisis of hypertension; whether primary or secondary, I do not know.

Electrocardiographic Study of Diabetes Mellitus

DRS. DUNCAN GRAHAM and JOHN HEPBURN, Toronto: It was hoped that in this group of cases restoration of normal metabolism would result in cardiac improvement but this was not the case. Of 153 patients studied, fifty-six had abnormal electrocardiograms. Of these fifty-six fifteen are dead; ten died from vascular disease and seven from cardiac disease. These patients were being treated for diabetes. Many patients with marked hyperglycemia had normal electrocardiograms. The cases of associated diabetes and cardiac lesions were comparable to ordinary cases of coronary disease. We asked ourselves whether the fat diet might be responsible for the changes in the abnormal group, but in patients on high fat diets in whom the electrocardiogram started out normally, it remained normal. The abnormal patients tend to improve on dietary treatment. The vascular changes are intimal and inflammatory in type, and degeneration occurs later. A very important factor seems to be the control of foci of infection, as regards both the diabetes and the coronary disease.

Relation of Blood Sugar to Blood Pressure

DR. H. O. MOSENTHAL, New York: Our examination has shown that about 25 per cent of cases of hypertension show high blood sugar. I believe that hypertension is much more frequent among diabetic patients than among average persons. Janeway said that the obese diabetic patient was more apt to develop hypertension than the emaciated person. Perhaps arteriosclerosis of the pancreas affects the secretion of that organ. Therefore, there seems to be a general relationship between hypertension, obesity, hyperglycemia and arteriosclerosis. We feel that increased blood sugar might tend to bring about increased blood pressure by (1) the immediate effect, and (2) the prolonged effect. However, in studying the clinical data, we found that in cases up to seven years duration we could not prove that hyperglycemia caused a rise in blood pressure. The situation is probably much more involved than that. The cardiovascular system in hyperglycemia presents complexities, but it would seem that hyperglycemia is threatening in its possibilities. The possible toxicity of hyperglycemia (referred to in 1860 by Weir Mitchell) may be a harmful agent, and, added to other factors, may have a toxic effect on the vascular system.

Blood Chemical Studies in Arterial Hypertension

DR. R. H. MAJOR, Kansas City, Mo.: We studied 161 patients with hyperglycemia and hypertension, a group of patients with high uric acid (above 4 mg. in 66 per cent) and patients with high cholesterol and found that none of these substances had pressor action. Creatinine had no effect, but methylguanidine had a marked pressor effect. Glycocyamine and glycyamanine affected the blood pressure. Guanidine in sufficient amounts could produce convulsions through toxic action. In a study of eighty patients with hypertension, we found methylguanidine present in 61 per cent (0.2 mg. or higher). In dogs guanidine causes a marked rise in pressure. This may have a definite relationship to the renal function. Our conclusions are that certain hypertensive patients show in their blood substances giving reactions similar to guanidine or the guanidine bases.

Hemolytic Anemia of Pregnancy

DR. WILLIAM ALLAN, Charlotte, N. C.: Three per cent of cases classified as chronic pernicious anemia start during or after pregnancy. It is an acute disease in women under 35 as a result of pregnancy, running a downward course without remissions, and is curable by blood transfusion. The chronic pernicious anemia, mostly in males, is characterized by remissions and is not curable by transfusion. Achylia is not frequent in pregnancy, although a great loss has been reported. The anemia is generally discovered after delivery or miscarriage and is so excessive that the woman may die within a week. Blood transfusion immdiately stops the hemolysis and 90 per cent of the patients recover. Without transfusion, the mortality is very high, from 50 to 85 per cent. The changes found at autopsy are the same as those in chronic pernicious anemia. In the literature there have been reports of recurrence, but these are rare cases. The fear of recurrence need not be a contraindication to subsequent pregnancies.

Treatment of Aneurysms of the Thoracic Aorta

DR. H. A. HARE, Philadelphia: Wiring produces a most marked relief from unbearable pain. This may be due to relief of pressure or to galvanic electricity. I have performed this operation thirty-seven times without any bad consequences. Many of the patients were in a desperate condition, oozing bloody serum and collapsed from the pain. We put in gold with platinum wire, in a tangled mass, to form a clot. The electric current is passed for more than an hour with the wire in situ. The relief from pain is almost immediate, and the lump disappears in a short time. The patients often are enabled to go to work again. One man who had wiring of the descending aorta three times lived nine years. Another man lived eleven months without any symptoms; then he was killed by a freight car. In another patient wiring was done for a large aneurysm of the ascending aorta, and he was sent home in good condition. In another case a man was brought to me for wiring, but I refused because I found that he had a gumma. He died, and at

V 90
1928

autopsy it was discovered that he had an aneurysm back of the gumma.

DISCUSSION

DR. R. S. LEVY, New York: Dr. Hare has not referred to the etiology in these cases. I assume that the patients were syphilitic. Was antisyphilitic treatment used in these cases, besides treatment by wiring?

DR. HARE: No other treatment than the wiring was given.

DR. JOSEPH SAILER, Philadelphia: I have never had any of the accidents that are attributed to the operation. On a trip I made a man spoke to me. I had forgotten him, but he said he was one of the patients in whom wiring had been done. He told me he was perfectly well and doing hard work. The wiring had been done nine months previously. Not every case is immediately or permanently relieved. Some fail to react. In all my cases the aneurysms were syphilitic. We have controlled the cases by antisyphilitic treatment. The best record we have is three and a half years.

Pernicious and Secondary Anemia; Liver Treatment

DR. HILDING BERGLUND, Minneapolis: Liver extract is effective in pernicious anemia but not in secondary anemia, even when there is achylia. We have tried liver extract on normal persons. The red blood cells are increased 20 per cent or more. If the experiment is repeated we get the same result, but there is no increase of reticulocytes. The red blood cells rise to 5 or even to 8 million. Blue fingers and headaches are noted. The effect is to bring to maturity cells already formed, but not mature enough to be released. The liver extract influences hematopoiesis chemically and morphologically. In embryonal life there is great activity in the synthesis of hemoglobin. In pernicious anemia it is the synthesis of hemoglobin which is at fault. The active principle which stimulates this appears to be in the liver. We fed fetal liver to a patient with pernicious anemia. The red cells increased from 3 to 5 million, and the hemoglobin from 40 to 80 per cent in one week.

Limitations of Liver Treatment in Pernicious Anemia

DRS. C. C. STURGIS, R. ISAACS and M. SMITH, Ann Arbor, Mich.: Some patients develop such an aversion to liver that they cannot eat it. We have hoped that the spinal symptoms would be benefited, but the blood count does not bear relationship to the change in the central nervous system. The neurologic symptoms have progressed although the blood was normal. In a man with subacute combined degeneration of the cord, there were 5 million red blood cells per cubic centimeter, but he had recurrent glossitis as well as cord symptoms.

DISCUSSION ON PAPERS OF DRS. STURGIS, ISAACS, SMITH AND BERGLUND

DR. A. L. BLOOMFIELD, San Francisco: In the patient who received one large dose of liver extract, 4,800 Gm., the red blood cells increased from 1 to 3½ million and then became stationary; then another large dose was given and the cells increased to 5 million, but without reticulocytes. In very severe cases, or when the feeding problem is acute, we could pass a tube and introduce a large amount of liver extract. Every one seems to think in terms of 600 Gm. doses. On occasion we might find it necessary to use 1,200 Gm. doses.

DR. W. S. THAYER, Baltimore: In the cases in which there were cord symptoms, was any attempt made to treat the anacidity?

DR. HENRY A. CHRISTIAN, Boston: I should like to ask Dr. Berglund about his results which suggest the possibility that the cases of Dr. Sturgis, in which the nervous lesions progressed, were due to treatment. Polycythemia shows nervous disturbances as well as pernicious anemia. I reported a parallel column of cases of pernicious anemia and of polycythemia. Patients with the latter condition have tingling in the finger tips, and other nervous disturbances. Many years ago I reported cases of more severe central nervous system disturbances. One we supposed was due to brain tumor, and I had Dr. Cushing make an examination. There were very severe nervous disturbances as a result of polycythemia in that case. I think that the explanation may be that a normal count, in terms of normal persons, may equal a polycythemia in a patient who has been accustomed for a long time to a low count, as in a patient with pernicious anemia. When he is treated and the count is brought up, nervous disturbances develop, because he has what is for him a polycythemia.

DR. DOUGLAS VANDERHOOF, Richmond, Va.: Most of the nervous symptoms are due to the achylia. It seems to me that in our enthusiasm in regard to the use of liver extract we are forgetting the possibility of the important rôle played by hydrochloric acid in the control of these factors. Arthur Hurst gives as much as 8 drachms (30 cc.) of hydrochloric acid. He feels that so far totally inadequate doses have been given.

DR. GEORGE H. WHIPPLE, Rochester, N. Y.: While working on experimental animals we have studied Minot's extract, and find it very slightly potent in these conditions; however, if we add to the liver extract a small amount of whole liver the general effect is that of whole liver. Liver extract alone gives a 15 per cent rise, whereas if whole liver is added, a 100 per cent rise results. The combined feeding will do something that extract alone will not do. We have not observed the sudden outpouring of cells in experimental animals that Dr. Berglund observed in normal persons. Severe anemia is a great stimulus. The cells are being drawn on constantly. We must be cautious in assuming that there is a specific substance in liver. Kidney tissue has the same amount of this unknown substance.

DR. DUNCAN GRAHAM, Toronto: Our results confirm those reported. I believe that hydrochloric acid produces a satisfactory response by improving the appetite. In 1926 we had a case of subacute degeneration of the cord with pernicious anemia. The patient was put on regular treatment, the diet raised, and 0.5 Gm. hydrochloric acid, three times daily, was given. After a year there was the first relapse, as far as anemia was concerned. The patient passed from a spastic paralysis to a flaccid one. Hydrochloric acid was given, and the blood count increased, but the neurologic signs were severe. With reference to failures, I agree with Dr. Sturgis. Failure often results after the diet has been discontinued. I think the neurologic manifestations are hard to control. As to glossitis, I have seen a recurrence in a patient with 5 million red blood corpuscles. Also, in a patient discontinuing the use of liver on account of the price, a recurrence of glossitis was the first clinical sign of relapse. Perhaps this is a warning of returning anemia.

DR. J. H. MEANS, Boston: I should like to ask Dr. Berglund one or two questions. First, how long is that effect sustained? Was this simply a washing out of red cells from the storehouse, or was the high level maintained if the liver diet was continued? Perhaps Dr. Berglund has stumbled on a prophylaxis for mountain sickness.

DR. HILDING BERGLUND, Minneapolis: We have not continued liver feeding to normal persons after ten days, but we are going to see the effect of continuance. As to the fetal liver in secondary anemia, we gave tablets of dried liver. The patients remained normal after two months. Dr. Whipple's work on secondary anemia is purely experimental. One of the most important contributions to this subject would be the classification of the secondary anemias. There is no doubt that they include a variety of faulty functions. Treatment of cases after prolonged bleeding is easier than treatment of idiopathic types. We tried to influence anemia produced by injections of distilled water and anemia produced by repeated bleeding. The regeneration was markedly more intense when the hemoglobin had been left in the body than when the hemoglobin was removed.

DR. C. C. STURGIS, Ann Arbor, Mich.: We were never very successful in getting the patient to take large doses of hydrochloric acid. Later we did not use it and the patients did just as well. The symptoms disappeared with the use of liver extract alone. I cannot reply to Dr. Thayer as to whether patients with cord changes received hydrochloric acid. The patients with liver extract treatment, whose blood count increased, did not have cord changes. We feel that liver extract produced results without hydrochloric acid. However, the question is still open.

(To be continued)

Current Medical Literature

AMERICAN

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Titles marked with an asterisk (*) are abstracted below.

American Review of Tuberculosis, Baltimore

17: 435-564 (May) 1928

Development of Pulmonary Tuberculosis in Lower Animals as Compared and Contrasted with Similar Lesions in Man. H. Fox, Philadelphia.—p. 435.

*Factors Fundamental to Healing in Tuberculosis. F. M. Pottenger, Los Angeles.—p. 459.

*Home-Made Preparation of Iodized Oil for Opaque Injections of Tuberculous Sinuses. C. Blance and H. R. Livesay, Washington, D. C.—p. 481.

*Nontuberculous Intrathoracic Conditions: Radiography as Aid in Their Diagnosis. L. R. Sante, St. Louis.—p. 489.

*Significance of Pleurisy in Pulmonary Tuberculosis. F. H. Heise and L. Brown, Trudeau, N. Y.—p. 500.

*Progression of Lesions in Active Pulmonary Tuberculosis. F. H. Heise, Trudeau, N. Y.—p. 506.

Some Chemical Changes Accompanying Growth of Tubercle Bacilli on Long's Synthetic Medium. T. B. Johnson and A. G. Renfrew, New Haven, Conn.—p. 508.

Lipoid Phosphorus-Cholesterol Ratio Before and After Feeding Radiated Eggs to Tuberculosis Patients. D. F. McRae and T. Ingvaldson, Ninette, Man.—p. 520.

*Studies on Acid-Fast Micro-Organisms: I. Reactions of Leukocytes of Rabbit Following Inoculation with Leprosy Bacilli. E. Jones and W. O. Tirrill, Jr., Nashville, Tenn.—p. 522.

Id.: II. Reactions of Leukocytes of Rabbit Following Inoculation with Smegma Bacilli. L. Schwartz, Jr., and R. S. Cunningham, Nashville, Tenn.—p. 537.

Food Problem in Sanatorium. E. S. Mariette, Oak Terrace, Minn.—p. 557.

Factors Fundamental to Healing in Tuberculosis.—Pottenger says that if one desires to understand how healing is brought about in tuberculosis, he must familiarize himself with the immunity reactions which accompany the disease. The key to the understanding of healing is an appreciation of the fundamental difference between primary infection and reinfection, and the difference in the body's reaction toward these processes. Every measure which is of value in the cure of chronic tuberculosis, that is, tuberculosis due to reinfection, must either increase and build up the competence of the patient's immunity mechanism, or stimulate those natural factors in his defensive mechanism which favor healing. All measures which improve the general physiologic equilibrium in the body, such as a carefully adapted regimen of rest and exercise, open air and food, sun, air and water baths, pulmonary compression and surgical measures, the relief of symptoms and complications, and the development and maintenance of a proper psychologic attitude are of value to the extent that they aid the patient in developing a competent defense and in maintaining physiologic balance.

New Preparation of Iodized Oil.—Blance and Livesay report on a new preparation of iodine, iodized oil, which will penetrate into very small sinuses where barium or bismuth will not go if thick enough to cast a shadow. It does not stay in the sinuses but drains out readily. It does not block sinuses and cause burrowing in other directions. Any amount may apparently be used without causing any reaction. It is absolutely nonirritating, and apparently has no effect on the normal amount of drainage from a wound. It is so cheap that the cost is of no consequence. The method of preparation is described in detail. The authors have used this preparation for more than a year for opaque injections of sinus tracts following tuberculosis of the bones and joints.

Roentgenographic Diagnosis of Nontuberculous Lung Lesions.—In order to differentiate other respiratory infections from tuberculosis, Sante says that it is necessary to be thoroughly familiar with their roentgen-ray appearances at all stages. In his discussion of nontuberculous diseases of the chest, he points out the various phases in which they resemble tuberculosis.

Significance of Pleurisy in Pulmonary Tuberculosis.—Just what pleurisy with effusion means in the course of pulmonary tuberculosis has not been fully determined. Heise and Brown found in a study of a series of cases that apparently the pleurisy with effusion per se does not inhibit complement-fixation reactions. There seemed to be almost an equal frequency of positive and negative reactions for the entire seventy-five cases. Altogether it would seem that the occurrence of pleurisy with effusion exerts but little influence on the prognosis of any individual case of pulmonary tuberculosis for the first five years after discharge.

Progression of Lesions in Active Pulmonary Tuberculosis.—An attempt was made by Heise to determine the frequency of extension of disease locally and in new areas by carefully examining roentgenograms showing definite progressive changes within the lungs and pleura of 152 patients. It was found that progression of the disease was manifested only by the development or increase of pleuritic densities in twenty-seven instances. Increase in the size of cavities without further infiltration was noticed in twelve instances. The remaining 113 were found to have a definite increase in collateral infiltration, or a development of new mottling or discrete tubercles. Of these 113 patients there were twenty-one with unilateral and ninety-two with bilateral disease. In the unilateral cases the extension occurred within or immediately contiguous to the existing disease in fourteen instances. Only seven patients developed new areas situated remotely from the old disease. Five of the seven new areas were on the opposite side. In the ninety-two bilateral cases, extension occurred immediately contiguous to or within the area of existing disease in sixty-five. New areas, remote from the old disease, were found in the remaining twenty-seven. It would seem, therefore, that the most frequent manner of extension in the chronic adult type of pulmonary tuberculosis is by direct contiguity; that is, by what may be most easily interpreted as lymphatic extension.

Reaction of Leukocytes to Bacterial Injections.—The experiments reported on by Jones and Tirrill indicate that the bacilli used (leprosy bacillus 365), when given in large amounts, stimulate the hematopoietic tissues of the rabbit to a temporarily increased production of both lymphocytes and monocytes. The authors raise the question whether this characteristic is common to all acid-fast micro-organisms, and whether it is in any degree proportional to their pathogenicity.

Annals of Surgery, Philadelphia

87: 641-800 (May) 1928

*Thrombophlebitis of Lower Extremities. J. Homans, Boston.—p. 641.

*Embolectomy. J. deJ. Pemberton, Rochester, Minn.—p. 652.

*Arterial Embolectomy. M. Danzis, Newark, N. J.—p. 667.

Ileocecal Enterocystoma Producing Partial Intussusception. F. V. Theis, Chicago.—p. 676.

Sublingual Phlegmon: Primary and Secondary Ludwig's Angina: Sixteen Cases. W. P. Van Wagenen and C. V. Costello, Rochester, N. Y.—p. 684.

Ulcerative Colitis. H. E. Santee, New York.—p. 704.

*New Type of Permanent Colostomy. C. H. Mayo and C. F. Dixon, Rochester, Minn.—p. 711.

*Abdominal Injuries in Children. I. M. Levin, Chicago.—p. 718.

Operative Mortality and End-Results in Gallbladder Surgery. B. B. Davis, Omaha.—p. 735.

Diverticula of Bladder: Twelve Cases. C. Stirling and H. W. Rollings, Jr., Washington, D. C.—p. 742.

Congenital Hypertrophy of Interureteral Ridge. S. Laskownicki, Lwów, Poland.—p. 751.

*Hodgkin's Disease of Bones. A. H. Montgomery, Chicago.—p. 755.

Puerperal Gangrene of Extremities. E. L. King, M. O. Miller and G. H. Hauser, New Orleans.—p. 767.

Prophylaxis of Gas Gangrene in Civil Surgery. M. Joseph, Passaic, N. J.—p. 772.

Technic of Blood Transfusion. J. M. Troutt, Honolulu, Hawaii.—p. 775.

Thrombophlebitis of Lower Extremities.—Homans believes that treatment of the late complications of thrombophlebitis may doubtless to a considerable extent be anticipated when the relation of the lymphatics to thrombophlebitis is better understood. The tissues should be given new connections with the lymphatics beneath the muscular aponeurosis. To this end, strips of deep fascia should be excised beneath areas of superficial edema and for some distance above and below them.

V 90
1928

When the superficial tissues are severely indurated or ulcerated, such a procedure is not enough. The area most badly injured should be excised, the underlying muscular aponeurosis being taken with it. Then a skin graft can be placed on the delicate reticular tissues covering the muscles. Experience alone can indicate what tissues should be excised and what may be treated simply by excision of fascial strips.

Embolectomy.—Pemberton has performed arteriotomy with removal of the obstructive embolus four times in three patients. The vessels involved were the common femoral, the aorta at its bifurcation, the common iliac, and the superficial femoral. One patient survived; one died from shock and one died from pneumonia. The author upholds the principle of the operation.

Arterial Embolectomy.—Danzis analyzes ninety-five cases collected from the literature and reports three cases of his own.

New Type of Permanent Colostomy.—Mayo and Dixon describe a procedure for making an artificial anus which will give the patient relief from obstruction and at the same time provide sufficient control so that he may take his place in life as before without a cumbersome apparatus or the risk of hernia which its vacuum suction entails. Passing a skin flap through the mesocolic opening is an essential feature of the operation.

Abdominal Injuries in Children.—Levin's study of 149 cases of abdominal injury in children indicates that the commonest early symptoms in order of importance are abdominal pain, tenderness, rigidity, abdominal wall injury, moderate elevation of temperature, vomiting and leukocytosis. The mortality rate is dependent on such factors as the character of the injury, the extent and nature of visceral injury, the time elapsing from injury to treatment, and the age of the child. The early combating of shock, blood transfusion, combined local and general anesthesia and adequate incision are important factors in successful treatment, in addition to the specific repair of the injured viscus. Laparotomy is justified whenever there is a reasonable doubt as to visceral injury, and the patient's general condition is good.

Hodgkin's Disease of Bone.—The assumption of a primary bone involvement in Hodgkin's disease appears to be warranted by the case reported by Montgomery. Roentgen-ray examination showed a tumor mass involving the spinous process of the second cervical vertebra. There was a large swelling of the right tibia occupying its middle third. General enlargement of the lymph nodes was not found, although nodes were palpated in the neck, axillae and groin.

Archives of Neurology and Psychiatry, Chicago

19: 752-968 (May) 1928

*Cerebral Circulation: I. Measurement of Pial Vessels. H. S. Forbes, Boston.—p. 752.
*Encephalography Via Lumbar Route. E. D. Friedman, W. Snow and J. Kasanin, New York.—p. 762.
Cerebellar Control of Vocal Organs. L. Bender, Iowa City.—p. 796.
Nervous Mechanism of Respiration of Selachii. M. G. Springer, New York.—p. 834.
*Relation of Infantile Convulsions, Head-Banging and Breath-Holding to Fainting and Headaches (Migraine?) in Parents. D. M. Levy, New York, and H. T. Patrick, Chicago.—p. 865.
Ammoniacal Silver Solutions Used in Neuropathology: Their Staining Properties, Chemistry and Methods of Preparation. L. S. Kubie and D. Davidson, New York.—p. 888.
Metastatic Abscesses of Brain of Pulmonary Origin: Two Cases. W. J. Gardner, Philadelphia.—p. 904.

Measurement of Pial Vessels.—An apparatus is described by Forbes for observing the blood vessels of the pia in living anesthetized animals, and for measuring their changing diameters. It consists of a window with a washout system, a head clamp and a specially mounted microscope with micrometer scale. The value of recording at the same time the changes in pressure within the skull and within the blood vessels in various situations is emphasized. A technic has been developed for making photomicrographs in black and white and also in color.

Encephalography via Lumbar Route.—Friedman et al. state that by means of endolumbar insufflation one can fill the cerebral subarachnoid space and the cisterns. A better insight is thus obtained into the brain structures. All of the air injected finds its way into the cerebral spaces, whereas, with the Dandy method, the air often escapes beside the needle. There is practically no mortality from this method, and it is therefore a safer procedure. For persons with well marked tumors of the posterior fossa, however, and for the demonstration of obstructive internal hydrocephalus, the Dandy procedure still remains the preferable method.

Relation of Explosive Symptoms in Children to Fainting and Headache in Parents.—The frequency of periodic headache in groups of apparently normal women in five communities, according to Levy and Patrick, was as high as 40.2 per cent. These headaches likely were largely migraine. Classified on the basis of time taken out of work, however, the majority of periodic headaches caused slight incapacity. The frequency of fainting in apparently normal women was 28 per cent. Parents who fainted or who had periodic headaches were more likely to have children who had infantile convulsions, temper with head-banging or breath-holding, and other recurrent attacks, especially spells of vomiting and fainting. Parents who fainted were more likely to have such children than parents who had periodic headache but remained free from fainting. Parents who had frequent periodic headaches were more likely to have such children than those whose headaches were infrequent. The same was true of fainting. Conversely, children who had "explosive symptoms" were more likely to have parents who fainted and had periodic headaches than children who were free from such symptoms. The "explosive symptoms"—infantile convulsions, temper with breath-holding and temper with head-banging—were in correlation with each other and with fainting and periodic headache in the parents.

Archives of Ophthalmology, New Rochelle, N. Y.

57: 219-325 (May) 1928

Glaucoma in Generalized Vascular Nevus of Skin: Case with Angiomatous Changes in Iris. A. Knapp, New York.—p. 219.
Diseases of Eye and Adnexa Due to Fungi and Higher Bacteria. S. R. Gifford, Omaha.—p. 224.
Case of Chloroma with Ocular Lesions. M. Cohen, New York.—p. 238.
Radiation Therapy of Cancers of Orbitopalpebral Region at Radium Institute of University of Paris. G. T. Pack, Birmingham, Ala.—p. 246.
Blue Sclerotics and Brittle Bones in Mother and Child. S. P. Oast, New York.—p. 254.
Photographic History of Traumatic Retinochoroiditis. A. J. Bedell, Albany, N. Y.—p. 262.
Two Early American Works on Eye. G. H. Jackson, Jr., Chicago.—p. 265.
Way to Keep Eyelids Closed After Infiltration Anesthesia. W. D. Gill, Washington, D. C.—p. 269.
Experience with Ephedrine in Ophthalmic Practice. M. J. Schoenberg, New York.—p. 272.
Two Safety Measures in Cataract Extraction. W. S. Atkinson, Watertown, N. Y.—p. 275.
Test Cards for Determination of Visual Acuity: Review. A. Cowan, Philadelphia.—p. 283.

Illinois Medical Journal, Oak Park

53: 297-368 (May) 1928

Dilemma of Universities. E. Keating, Chicago.—p. 313.
James Miner of Winchester. C. E. Black, Jacksonville.—p. 315.
Angina Pectoris. H. A. Durkin, Peoria.—p. 319.
Education and Organization. W. D. Chapman, Silvis.—p. 325.
Problems of Country Doctor. R. F. Lischer, Mascoutah.—p. 328.
Our Greatest Debt. E. P. Sloan, Bloomington.—p. 331.
Functional Nervous Disorders. M. Solomon, Chicago.—p. 337.
Radiologic Study of Pathologic Gallbladder. P. B. Goodwin, Peoria.—p. 346.
Food Poisoning. L. Arnold, Chicago.—p. 353.
Teaching Clinic on Hypertension and Nephritis. R. Major, Kansas City, Mo.—p. 357.
Pregnancy and Tuberculosis: To Interrupt or Not to Interrupt. G. Gellhorn, St. Louis.—p. 360.

Journal of Experimental Medicine, Baltimore

47: 637-827 (May 1) 1928

Calcium and Inorganic Phosphorus in Blood of Rabbits: III. W. H. Brown, New York.—p. 637.
Rôle of Clasmatocytes and Connective Tissue Cells in Nonspecific Local Cutaneous Immunity to Staphylococcus. S. O. Freedlander and J. A. Toomey, Cleveland.—p. 663.
Electrophoresis of Blood Platelets of Horse: Origin and Relation to Thrombus Formation. H. A. Abramson, Berlin-Dahlem, Germany.—p. 677.
Mode of Spread of Friedländer Bacillus-Like Respiratory Infection of Mice. L. T. Webster, New York.—p. 685.
Immunologic Studies in Relation to Suprarenal Gland: I. Hemolysin Formation in Normal Rats. J. Marmorston-Gottesman and D. Perla, New York.—p. 713.
Id.: II. Hemolysin Formation in Suprarenalectomized Rats. D. Perla and J. Marmorston-Gottesman, New York.—p. 723.

*Experimental Study of Diathermy: V. Elevation of Temperature in Pneumonic Lung. R. V. Christie, W. Ehrich and C. A. L. Binger, New York.—p. 741.
Individual Differences in Human Blood. K. Landsteiner and P. Levine, New York.—p. 757.
Relative Reaction Within Living Mammalian Tissues: X. Litmus Constituents as Vital Stains. R. Elman, D. R. Drury and P. D. McMaster, New York.—p. 777.
Id.: XI. Intracellular Reaction of Kidney Epithelium: Relation to Reaction of Urine. P. D. McMaster and R. Elman, New York.—p. 797.
Etiology of Oroya Fever: XII. Influence of Malarial Infection (Plasmodium Inui?), Splenectomy, or both, on Experimental Carrion's Disease in Monkeys. H. Noguchi, New York.—p. 821.

Study of Lung Temperature in Pneumonia.—An experimental pneumonia with more or less lobar distribution was produced by Christie et al. in dogs by the method of intrabronchial insufflation of *B. friedlaenderi*, type B, and pneumococcus, type I. Such dogs as showed evidences of a pulmonary lesion when examined roentgenographically were selected for lung temperature measurements. Measurements of lung temperature were made by means of thermocouples before and during diathermy. The thermocouples which recorded the temperature in the consolidated lobes showed in most instances a more rapid rate of heating during diathermy than those in the normal lobes. The final increase in temperature in the pathologic lobes over the normal lobes amounted to slightly more than 1 C. When local heating occurred during diathermy it was of the order of magnitude found in a lung in which the branch of the pulmonary artery supplying it had been clamped. Histologic examination of the lungs showed the pathologic reaction to consist of intra-alveolar exudate composed of polymorphonuclear leukocytes and desquamated alveolar epithelium. In some sections the exudate was sufficient to cause compression and emptying of the alveolar capillaries.

Journal of Nervous and Mental Disease, Albany, N. N.

67: 433-544 (May) 1928

What Sort of Thing is Life? J. Wright, Pleasantville, N. Y.—p. 433.
Pathologic State of Choroid Plexuses in So-Called Essential Epilepsy. A. Gordon, Philadelphia.—p. 445.
Psychogenic Factors in Sequelae of Cerebral Trauma: Two Cases. G. H. J. Pearson, Philadelphia.—p. 449.
Epilepsy. (To be cont'd.) J. Notkin, New York.—p. 457.
Psychoses in Criminals. (Cont'd.) B. Karpman, Washington, D. C.—p. 478.

Military Surgeon, Washington, D. C.

62: 573-723 (May) 1928

Medical Service in Theater of Operations. M. W. Ireland.—p. 573.
*Antirachitic Efficiency of Winter Sunlight of Washington, D. C. W. D. Fleming.—p. 592.
*Acute Yellow Atrophy of Liver in Case of Untreated Syphilis. E. H. Theis.—p. 610.
Orthopedic Service: Its Place in Activities of Medical Department in War and Peace. T. S. Mebane.—p. 616.
*Larva Migrans. M. L. Todd.—p. 642.
Cholecystography: Results in Letterman General Hospital. A. J. Redland.—p. 643.
Id.: From Clinical Viewpoint. W. S. Shields.—p. 653.
Ninety-Sixth Division Training School for Medical Reserve Officers. R. A. Fenton, B. N. Wade and S. S. Skiff, Portland, Ore.—p. 656.
Recollections of Old Medical Officers: Brigadier General Alfred A. Woodhull. F. R. Keefer.—p. 659.

Antirachitic Efficiency of Winter Sunlight in Washington.—Fleming found that the climate of Washington, D. C., during the months of December, 1927, and January, February and March, 1928, afforded sufficient ultraviolet rays to promote normal calcification in rats confined under a glass partially permeable to the ultraviolet ray and on a diet which produced marked rickets in rats not receiving ultraviolet irradiation under window glass. The gain in weight of the rats receiving this amount of ultraviolet ray was also much greater than in those rats not receiving this portion of light. Evidence of fertility of the rats under vitaglass was noted. The effect of a thin film of dirt on the surface of a glass in decreasing the permeability to ultraviolet rays was also noted. This suggests the advisability of frequent cleaning of windows of such glass.

Acute Yellow Atrophy in Untreated Syphilis.—Theis relates the case of a man admitted to the hospital complaining of weakness, jaundice, nausea, vomiting and lumbar pains. Examination led to a tentative diagnosis of syphilis of the central nervous system and of the liver. The patient was put to bed, on a fat-free diet, with 20 cc. of magnesium sulphate each morning. Fluids were forced. The patient's condition rapidly became worse, and he developed a characteristic odor of moldy corn identical with that noted in a previous case of acute yellow atrophy of the liver. After a week he was in deep coma and signs of cardiac failure developed. The urine was negative for leucin and tyrosin crystals but contained much fat. The van den Bergh reaction was four plus, direct and indirect, with 4.1 units quantitatively. Death occurred on the thirteenth day. A necropsy was made. The liver was the chief organ of interest. It was uniformly decreased in size, somewhat soft and flabby, and yellowish brown; it weighed only 1,055 Gm. The consistency of the organ was "rubbery." On gross section most of the organ was an even light brown showing none of the characteristic hepatic delineations. Smears taken from the organ twenty-four hours after death did not show any spirochetes. Microscopically there was diffuse necrosis of the hepatic parenchyma.

Larva Migrans.—Todd reports a case which apparently well informed physicians failed to recognize, and in which the treatment prescribed in standard textbooks was ineffective. One spot on the thigh was resistant to all the usually employed treatments. Todd froze the skin with ethyl chloride, split the burrow at the business end with a fine galvanocautery point, and cauterized the bottom of the burrow. The reaction was slight, and the cure instantaneous.

Missouri State M. Association Journal, St. Louis

25: 185-240 (May) 1928

Reconstructive Surgery. D. Lewis, Baltimore.—p. 185.
Treatment of Epithelioma About Face, Mouth and Jaws. E. C. Padgett, Kansas City.—p. 190.
Prevention and Treatment of Toxemias of Latter Part of Pregnancy. H. B. Goodrich, Hannibal.—p. 194.
Bladder Tumors: Removal with Fulgurations. O. J. Wilhelmi, St. Louis.—p. 199.
Synthalin Therapy in Treatment of Diabetes Mellitus. A. C. Clasen and A. M. Ginsberg, Kansas City.—p. 201.
Observation. J. F. Chandler, Oregon.—p. 205.
Practical Obstetrics. W. C. Gayler, St. Louis.—p. 206.

New Orleans Medical and Surgical Journal

80: 685-782 (May) 1928

Louis Pasteur. A. Lafargue, New Orleans.—p. 685.
Some Common Causes of Uterine Bleeding. C. J. Miller, New Orleans.—p. 691.
Thyroidectomy. J. C. Culley, Oxford, Miss.—p. 695.
Abscess of Liver: Cases. A. Street, Vicksburg, Miss.—p. 701.
Acute Abdominal Disasters. A. E. Hertzler, Halstead, Kan.—p. 709.
Hernia of Ovary and Fallopian Tube. I. Cohn, New Orleans.—p. 723.
Certain Phases of Gallbladder Function. D. N. Silverman and L. J. Menville, New Orleans.—p. 730.
Rôle of Private Practitioner in County Health Program. J. N. Kittrell, Pascagoula, Miss.—p. 732.
Control of Contagious Diseases in Children. W. H. Frizell, Brookhaven, Miss.—p. 735.
Problem of Venereal Disease Control. E. H. Linfield, Gulfport, Miss.—p. 744.
Relationship of Feeblemindedness to Field of General Medicine. H. H. Ramsay, Ellisville, Miss.—p. 753.

Ohio State Medical Journal, Columbus

24: 337-424 (May) 1928

Intussusception: Need for Early Diagnosis and Immediate Operation. A. Strauss, Cleveland.—p. 357.
Cardiovascular-Renal System in 100 Consecutive Autopsies. S. A. Hatfield and R. A. Moore, Columbus.—p. 361.
Rôle of Tonsils in Acute Rheumatic Fever in Childhood. A. G. Mitchell and G. Renner, Cincinnati.—p. 365.
Acute Hemiplegic Encephalitis in Infants. C. W. Burhans, Cleveland.—p. 368.
Causes of Failure in Treatment of Hay-Fever. M. B. Cohen, J. Reicher and J. Breitbart, Cleveland.—p. 372.

Surgery, Gynecology and Obstetrics, Chicago

46: 591-734 (May) 1928

*Precancerous Changes in Rectum and Colon. J. P. Lockhart-Mummery and C. Dukes, London.—p. 591.
*Fate of Iodized Oil (Lipiodol) in Lungs. A. L. Brown, San Francisco.—p. 597.
*Closure of Bronchi in Lobectomies (Experimental Work). R. B. Bettman and Others, Chicago.—p. 602.
Anatomic Basis for Study of Splanchnoptosis: Abdominal Walls at Term. A. C. Vietor, Boston.—p. 605.
*Periosteal Transplants in Repair of Delayed Union, Ununited Fractures and Loss of Bone Substance. H. E. Mock, Chicago.—p. 641.
*Factor of Biliary Stasis in Production of Gallstones. G. H. Copher, St. Louis, and C. F. W. Illingworth, Edinburgh.—p. 658.

V 90
1928

Factors Influencing Prognosis in Carcinoma of Rectum. F. W. Rankin and A. C. Broders, Rochester, Minn.—p. 660.
*Hydatid Disease of Kidney. G. Craig and R. K. Lee-Brown, Sydney, Australia.—p. 668.
*Osteitis Fibrosa Cystica of Spine. A. W. Adson, Rochester, Minn. —p. 684.
*Value of Ventricular Studies Other Than Ventriculography in Localization of Brain Tumors. F. C. Grant, Philadelphia.—p. 689.
Treatment of Occiput Posterior Position After Engagement of Head. J. B. DeLee, Chicago.—p. 696.
Switching of Vermilion Bordered Lip Flaps. J. B. Brown, St. Louis. —p. 701.
*Bronchoscopic Treatment of Pulmonary Abscess. H. J. Moersch, Rochester, Minn.—p. 704.
*Therapeutic Value of Lipiodol in Empyema. J. L. Ransohoff and J. D. Heiman, Cincinnati.—p. 708.
Angioma of Kidney. E. S. Judd and H. E. Simon, Rochester, Minn. —p. 711.
*Pyloroduodenostomy for Duodenal Ulcer. C. A. Roeder, Omaha.—p. 714.
Gastro-Esophageal Carcinoma: Diagnosis. L. J. Notkin, Montreal. —p. 717.

Precancerous Changes in Rectum and Colon.—Lockhart-Mummery and Dukes emphasize that the earliest recognizable lesion in the development of cancer of the rectum is a hyperplastic change taking the form of irregular epithelial proliferations, scattered over an extensive area of the bowel. This is followed by the appearance of visible tumors—adenomas; these are usually numerous and often separated from each other by several inches of mucous membrane, normal in appearance to the naked eye. The authors have called this the precancerous stage. The bowel may remain in this condition for many years, or at any stage in the epithelial proliferations, or at any stage in the growth of an adenoma the epithelium may abruptly assume those invasive properties recognized clinically and histologically as cancer. It would appear that carcinoma formation is an accident happening to a previously existing adenoma. With the development and dissemination of the malignant tumor, the neighboring epithelial proliferations and benign tumors tend to retrogress and disappear so that they are less evident in association with large malignant ulcers. These opinions are supported by pathologic and clinical observations.

Fate of Iodized Oil in Lungs.—An iodized oil (lipiodol) was injected by Brown intratracheally in 2 cc. amounts into the lungs of healthy cats. These cats were killed anywhere from one-half hour to twenty-six days after the introduction of the oil, and histologic studies of the lungs undertaken. From these studies it appears that: 1. The presence of oil in healthy alveoli excites a mononuclear infiltration of the area involved. 2. This mononuclear infiltration is of the large phagocytic type, apparently endothelial in origin. 3. These phagocytes are the prime agents in the removal of the oil from the alveoli and they follow the lymphatic system, while direct absorption of digestion of the oil, if it occurs at all, is of secondary importance. 4. At least up to four weeks, there is no evidence of encapsulation of the oil remaining in the alveoli. 5. The rate of removal of the oil is in direct proportion to the number of available phagocytes.

Closure of Bronchi in Lobectomies.—Bettman et al. state that lobectomy in dogs is an operation easily performed and well tolerated. The stump remains closed, the pleura does not become infected, and the dogs themselves appear none the worse for the loss of the small amount of lung tissue. The authors think that the adjacent pleura and the peribronchial tissues play a major rôle in the closing of the stump.

Use of Periosteal Transplants in Bone Surgery.—Mock concludes that in practically every case in which an autogenous bone graft is indicated, the same repair can be obtained more rapidly and with less trauma to the tissues by the use of an osteoperiosteal or pure periosteal transplant.

Factor of Biliary Stasis in Production of Gallstones.—Copher and Illingworth have not been able to induce cholelithiasis in experimental animals either by stasis alone or by stasis combined with infection of the bile, even in the presence of various foreign bodies. Obviously, other conditions seem necessary for gallstone formation. A likely factor may be intramural infection, especially since clinical investigation has shown its frequent presence in cholelithiasis even when the bile is sterile.

Hydatid Disease of Kidney.—Of 1,460 cases of hydatid disease admitted into the Royal Prince Alfred Hospital during the past forty-two years, in twenty-eight, or 1.9 per cent, the disease affected the kidney. Craig and Lee-Brown report on sixteen of these.

Osteitis Fibrosa Cystica of Spine.—Two cases of osteitis fibrosa cystica of the spine are reported by Adson to emphasize the fact that the disease occurs in other than the long bones of the body, that trauma and infection are suggestive etiologic factors, and that roentgenograms are of diagnostic value in differentiating bony tumors, and to call further attention to the value of surgical treatment in these benign giant cell tumors.

Value of Ventricular Estimation in Localization of Brain Tumors.—Three cases are reported by Grant to prove that ventricular estimation is a safer procedure than ventriculography. In experienced hands with proper interpretation it may often give information of equal value.

Bronchoscopic Treatment of Pulmonary Abscess.—In nineteen cases of pulmonary abscess treated by Moersch bronchoscopically, excellent results were obtained from bronchoscopic drainage in sixteen. In one case, the result was indeterminate and the patient is still under observation. In one case, operation was resorted to as the results from bronchoscopy were unsatisfactory. Death occurred in the case of a man whose symptoms had persisted for one year and were of indeterminate origin. He improved markedly after two bronchoscopic drainages and was permitted to return home. Four months later he died. The cause of death is unknown.

Value of Iodized Oil in Empyema.—Of five cases of empyema reported by Ransohoff and Heiman, four healed rapidly after injection of iodized oil. The injection of iodized oil into the residual cavity after treatment of empyema by aspiration drainage and Carrel-Dakin instillations seems to have a decided beneficial action.

Pyloroduodenostomy for Duodenal Ulcer.—Roeder describes an operation which is not a substitute, in the majority of instances, for the properly indicated and properly performed gastrojejunostomy for duodenal ulcer, but has a place following an undoing of an unsuccessful gastrojejunostomy, and also in some instances wherein it may function satisfactorily without the help of a gastrojejunostomy. Another qualification is that it simulates the normal function more than any other operation as yet proposed, and if it is unsuccessful, it can be helped by the addition of a gastrojejunostomy. The essential difference between this operation and Haberer's operation is that Roeder applies his operation for ulcers of the duodenum, leaving the distal end of the stomach, including the pyloric sphincter, intact. Haberer's operation is an implantation of the amputated stump of the stomach into the second portion of the duodenum, while Roeder's operation is a reimplantation of the pyloric sphincter into the second portion of the duodenum.

Wisconsin Medical Journal, Milwaukee

27: 199-252 (May) 1928

*Calculi in Urogenital Tract. W. F. Braasch, Rochester, Minn.—p. 199.
Methods of Examination of Use in General Practice in Urology. I. R. Sisk, Madison.—p. 204.
Native Medical Practices in China. P. F. Greene, Madison.—p. 207.
Schick Tests and Rural Immunity. P. Corr, Madison.—p. 210.
Diagnostic Problems. L. M. Warfield, Milwaukee.—p. 212.
Osteochondritis Dissecans: Case. H. C. Schumm, Milwaukee.—p. 214.
Thrombocytopenic Purpura. F. Raine, J. L. Yates and C. H. Davis, Milwaukee.—p. 215.
Ligature Holder. W. Young, Madison.—p. 218.
Prevention of Tuberculosis. F. I. Drake, Milwaukee.—p. 218.
Medical Testimony. E. L. Miloslavich, Milwaukee.—p. 236.

Calculi in Urogenital Tract.—In 133 patients operated on for renal stone at the Mayo Clinic during 1926, Braasch says that the kidney was so badly injured that it was necessary to remove it in forty-five. Foci of infection and errors in metabolism are two distinct causes of stone formation, the former being the etiologic factor in the majority of cases of renal stone. It is of the greatest importance to remove all foci of infection. Uric acid stones and cystine stones are the result of disturbance in metabolism and their recurrence may be influenced by dietary precautions as well as by internal medication. Distilled water or a special diet is not of any value in the ordinary type of stone.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Journal of Laryngology & Otology, Edinburgh

43: 313-384 (May) 1928

Thyroglossal Cysts and Allied Conditions. N. Patterson.—p. 313.
*Incidence of Tuberculous Infection in Faucial and Pharyngeal Tonsils of Children. G. R. Scarff and L. E. H. Whitby.—p. 328.
*Tuberculosis of Tonsil. W. H. Murray and J. A. Maxwell.—p. 335.
*Id. J. B. Horgan.—p. 338.
Case of Surgical Emphysema of Left Orbit and Cheek. G. E. Martin.—p. 340.
Emphysema in Left Orbit of Nasal Origin. E. A. D. Dickson.—p. 341.
Fracture of Base of Skull and Other Injuries, Followed by Acute Mastoid Disease: Operation: Recovery. W. J. Harrison.—p. 342.

Incidence of Tuberculosis of Tonsils in Children.—A study made by Scarff and Whitby of 200 cases emphasizes the necessity for tonsillectomy in all cases in which removal of tuberculous glands in the neck is necessary. Without tonsillectomy a focus of infection remains active. The incidence of tubercle in tonsils was 3 per cent. This is a marked lowering of previous figures which is attributed in part, if not wholly, to the improvement in the milk supply and to the education of the public in regard to the danger of using infected milk.

Tuberculosis of Tonsils, Faucial Pillar and Larynx.—Murray and Maxwell report a case of tuberculosis of the tonsil in which tonsillectomy was followed by ulceration of the faucial pillar and later of the larynx. Although the chest had been examined repeatedly for tuberculosis, the disease was not found until a roentgen-ray examination revealed a somewhat extensive involvement of both lungs. Evidently a latent tuberculosis had been aggravated by the operation. The patient died of generalized tuberculosis with a terminal meningitis after an illness extending over six months.

Multiple Tuberculosis of Tonsil.—Horgan reports a case of multiple miliary tuberculous foci scattered throughout a tonsil in which the tonsillar lymph glands were not enlarged; the larynx looked normal; the lungs were healthy, and the sputum did not contain tubercle bacilli. The Wassermann reaction was negative. There were no subsequent developments in this case.

Lancet, London

1: 793-842 (April 21) 1928

Medical Perspective of Multiple Extractions and Other Major Dental Operations. H. Hilliard.—p. 793.
*Auricular Flutter: Five Cases. H. Moore.—p. 795.
*Prognosis of Carcinoma of Breast. D. H. Patey and R. W. Scarff.—p. 801.
*Prognostic Tests in Tuberculosis. B. L. McFarland.—p. 804.
*Injection Treatment of Varicose Veins. R. Maingot and C. H. Carlton.—p. 806.
Cutaneous and Visual Hallucinations in Chronic Hallucinatory Psychosis. E. D. Macnamara.—p. 807.
Camptocormia: Two Cases. G. F. Walker.—p. 808.

Auricular Flutter.—Five cases of auricular flutter are described by Moore. In the first case sinus rhythm appeared after an unknown interval following digitalis treatment, but relapse to flutter occurred later; adequate digitalis administration, however, caused the maintenance of 4:1 block between the fluttering auricles and the ventricles with the result that the circulation was quite efficiently carried on. In the second and third cases digitalis in suitable dosage on each occasion caused flutter to be replaced by auricular fibrillation, which, in its turn, gave place to sinus rhythm as a result of treatment with quinidine. In the second case, although auricular fibrillation appeared after digitalis treatment, relapse to flutter occurred on discontinuance of the digitalis when quinidine was not used after fibrillation appeared, while quinidine alone in moderately large doses was unsuccessful in the treatment of flutter, but caused changes in the electrocardiograms which might be interpreted as evidence of toxic action. Each of the three relapses in the second case from sinus rhythm to flutter, as well as the first attack of flutter, was controlled by digitalis followed by quinidine; digitalis caused flutter to be replaced by fibrillation, and quinidine caused the latter to be replaced by sinus rhythm. A large dose of digitalis, however, was required on the second occasion to convert flutter to fibrillation. The two attacks of flutter in the third case were also successfully treated by digitalis followed by quinidine, but the large dose of digitalis given in the relapse caused transitory paroxysmal ventricular tachycardia. The fourth case was an example of a comparatively rare condition; auricular flutter with 1:1 ventricular response. In the fifth case flutter gave place to auricular fibrillation after digitalis, and fibrillation was spontaneously replaced by sinus rhythm four hours afterward.

Prognostic Value of Histologic Study of Breast Cancer.—Patey and Scarff attempted to ascertain whether there is any correlation between the histologic appearance of the growth and the subsequent course of the disease, and to determine the value of such an analysis in giving a prognosis in an individual case when all the ascertainable factors have been taken into account. Greenough's method of classification has been largely followed, but chief importance has been attached to three factors—tubule formation, inequality in the size of the nuclei, and hyperchromatism. Tubule formation has been considered of favorable significance. Marked inequality in the size and irregularity in the outline of the nuclei have been taken to be indicative of a high degree of malignancy, and the presence of many hyperchromatic nuclei has also been considered to affect the prognosis adversely. The amount of secretion and the number of mitotic figures have been taken as qualifiying these factors, the former favorably and the latter unfavorably. Other points, such as degeneration of cells, small round cell infiltration, and hyalinization of stroma, have been noted, but little weight has been attached to them. Irregularity in the size of cells has been considered together with irregularity in the size of nuclei, but the estimation is often difficult owing to indistinct cell outline and differences due exclusively to mechanical influences. In the sections examined it has been noted whether each factor is absent, or present in slight, moderate or marked degree. All points were then considered and the relative weight attached to each; the tumor was then placed in one of the following three groups: group 1, of slight degree of malignancy; group 2, of moderate malignancy; group 3, of marked malignancy. In all cases the tumor was placed in the appropriate group before reference was made to the subsequent clinical history. The material investigated consisted of fifty cases, in all of which a radical operation was performed, in each case by the same surgeon. The study, even when due allowance is made for the comparatively small number of cases, in addition to confirming the prognostic value of microscopic examination of the axillary glands, corroborates the results of those workers who have found that there is a definite relationship between the histologic appearance and clinical course of carcinoma of the breast. This relationship shows itself in three ways: 1. In cases of low malignancy the early or favorable stage is of longer duration, and patients are more likely to present themselves for treatment before there has been much spread of the disease. 2. In advanced cases palliative operation tends to be followed by more prolonged benefit if the histologic index is low. 3. Histologic estimation of the degree of malignancy is of value in prognosis in a limited number of intermediate cases—i. e., those in which axillary involvement is early.

Prognostic Tests in Tuberculosis.—It is definitely concluded by McFarland that no test is sufficiently delicate to differentiate between a case in which the disease is mild but active and one in which it is quiescent. Although pigmentation is a favorable sign, it is no guarantee of inactivity. The severity, rapidity of onset, and duration of a standardized Pirquet cutaneous reaction do not bear any relation to the severity or stage of the disease. There is a gradual return to a normal Arneth count as a lession becomes quiescent. There is a tendency toward normal after heliotherapy and a reversion during the winter months. The relative percentage of lymphocytes has not been found to have any significance. The presence of eosinophil cells in more than 3 or 4 per cent is a favorable sign. The urochromogen reaction is always present in severe cases or in late stages of the disease, when the variation in the intensity of the reaction is of value in prognosis. Its absence in an apparently severe case is a reliable indication that the defenses of the body are adequate for the time. Its presence in an apparently mild or quiescent case is a very valuable indication that the disease is progressing and that the defenses of

V 90
1928

the body are inadequate. Its appearance for a short time during the acute stage is not of serious import.

Injection Treatment of Varicose Veins.—Maingot and Carlton advocate the use of this procedure. They use two solutions: (1) sodium salicylate, 25 per cent, and sodium chloride, 10 per cent in equal parts; (2) quinine bihydrochloride (or hydrochloride), 4 Gm.; urethane, 2 Gm., and distilled water to 30 cc. It is difficult to choose between the quinine and the salicylate solutions; in fact, some patients may best be treated by the injection of one drug in one part of the limb and the other in another part. In general, the authors recommend sodium salicylate when the veins are large and covered with healthy skin. The quinine-urethane solution is the less powerful venous obliterant, but is advisable when the veins are small, the patient apprehensive, or the operator inexperienced.

Japanese J. Obstetrics and Gynecology, Kyoto, Japan

11: 1-66 (March) 1928

*Biologic Research of Sterility: IV. Relation Between Fertility and Agglutination of Blood Corpuscles of Conjugal Couple: Sterility of Unknown Cause. S. Uchigaki.—p. 2.
Physiologic Investigation of Fetus: III. Supplementary Research of Ferments in Digestive Organs: Lipase in Stomach. T. Tachibana.—p. 20.
Investigations of Actions of Extracts of Placenta. J. Kosakaé.—p. 27.
Action of Oxytoxics on Vessels of Placenta in Perfusion Experiments. J. Kosakaé.—p. 38.
Statistical Research of Newly Born Infants. F. Aiko.—p. 47.
*Relation of Physical Constitution to Tumors of Uterus: Uterine Cancer and Myoma. M. Takata and I. Suzue.—p. 51.
*Effect of Roentgen Rays on Function of Stomach. K. Ihdima.—p. 53.
Absorption of Pigments into Vaginal Mucous Membrane. K. Shi.—p. 58.
Excretion of Pigments from Vaginal Mucous Membrane. K. Shi.—p. 60.
*Biologic Research of Sterility (Appendix): Experimental Study of Cause of Uterine Myoma Sterility. S. Uchigaki.—p. 61.
Case of Situs Inversus. S. Uchida.—p. 64.
Rare Vagina Duplex: Septum Vaginae Transversum Totale Congenitum. H. Yagi.—p. 64.

Relation Between Fertility and Agglutination of Erythrocytes.—In the case of a couple whose genital organs as well as genital cells are normal and healthy, but who are sterile, Uchigaki states there is some suspicion of inability of combination on the part of the genital cells of the couple. It is also easy to suppose that this want of affinity found in the genital cells of both sexes can also be found in other body cells, as a common phenomenon. Another supposition is that the affinity of the body cells and of the fluid of the body in a conjugal couple may have a certain connection with the efficiency of impregnation, because the combination of cells is effected through the fluid of the body as a medium, and want of affinity causes an extreme drop in the fertility, namely, sterility. Experiments were made by Uchigaki which were based on such suppositions, red blood corpuscles being taken as representative of the body cells, and the blood serum as representative of the body fluids. The mutual affinity of the two was then estimated, and thus an interesting opportunity was obtained for examining the relation between the agglutination of blood corpuscles and the efficiency of impregnation. A great deal of evidence confirmatory of Uchigaki's hypothesis was obtained.

Relation of Physical Constitution to Uterine Tumors.—Takata and Suzue based their observations on 278 cases of uterine tumors. They state that carcinoma appears among women of strong constitution. Myoma can be found in general among women of moderate constitution, or more likely among women of relatively weak constitution. Ovarian cysts appear more likely to occur in women of strong constitution. Ovarian papilloma appears among women of strong constitution. Chorioepithelioma appears among women of rather weak constitution. Cancer of the vagina or the ovary appears more likely among women of strong constitution. Sarcoma of the uterus, though seen in only one case, seems to appear among women of strong constitution.

Effect of Roentgen Ray on Gastric Function.—Ihdima asserts that the change in the function of the stomach which appears at the time of roentgen-ray treatment differs according to the individual. Secretion of the gastric juice is unchanged or hindered in those who have a rise in the blood pressure, while there is depression of the pressure in most cases in which acceleration is observed. The peptic activity of the gastric juice is parallel with the secretory function. The duration of stay of the contents of the stomach is unchanged or prolonged for those whose blood pressure rises, while for those whose blood pressure is lowered the duration is shortened. No special relation is recognizable between the frequency of irradiation and the change in the gastric function. Roentgen intoxication is almost unrecognizable in those whose blood pressure rises, but never in those whose pressure is depressed.

Uterine Myoma as Cause of Sterility.—Uchigaki concludes that the toxic influence of the myoma element on the ovarian follicles, its acceleration of the muscular activity of the uterus, and the circumscribed presence of myoma nodules in the uterine walls, as foreign bodies, are factors able to hinder pregnancy, and must be added to the causes of sterility arising from myoma of the uterus.

Presse Médicale, Paris

36: 513-528 (April 25) 1928

*Spontaneous Chronic Hypoglycemia. G. Laroche, Lelourdy and J. A. Bussière.—p. 513.
*Epidemic Facial Paralysis. A. Radovici.—p. 516.
Biliary Fistula and Osteoporosis. J. Sénèque.—p. 516.

Spontaneous Chronic Hypoglycemia.—Laroche et al. report a case of spontaneous chronic hypoglycemia occurring in a woman, aged 35. The condition began with the appearance of mental disturbances on the patient's awakening in the morning. The attack was announced by a diminution in visual acuity, which extended at times as far as nonperception of objects in the room, and a tendency to vertigo on standing. During the attack the patient was in a state of cerebral and general torpor. She recognized nobody and did not answer questions. During these attacks she presented an incoordination of the muscles of the mouth and pharynx which prevented her from chewing and swallowing so that it was at times impossible to feed her. In the severe attacks, she had epileptiform seizures with trembling, trismus, frothing at the mouth and involuntary urination. The respiration was irregular and superficial. Vomiting was noted on a few occasions. Examination of the blood revealed 0.75 Gm. of sugar; during the attacks it dropped to as low as 0.66 Gm. The duration of the attacks depended on how soon she was fed and on the type of food. Sometimes it was necessary to administer dextrose intramuscularly or intravenously. With intravenous injection of dextrose, the attacks frequently disappeared within three minutes. One milligram of epinephrine injected intramuscularly caused the attack to disappear within about forty-five minutes. The condition was finally cured by awakening the patient every morning at six o'clock and giving her foods rich in sugar. Although the etiology and pathogenesis of this condition is little understood, it is important clinically; if the blood of patients who complain of having to eat frequently is examined, hypoglycemia will doubtless be found to be a common occurrence.

Epidemic Facial Paralysis in the Present Epidemic of Poliomyelitis in Roumania.—In a single month, Radovici and his colleagues observed fifteen cases of epidemic poliomyelitis in which the only symptom present was facial paralysis. For several years the author has been convinced that many cases of peripheral facial paralysis called *a frigore*, are in reality produced by the action of an infectious virus on the nucleus of the facial nerve. Two years ago he observed two cases of facial paralysis in infants whose general condition denoted an infection; poliomyelitis serum was administered with good results.

Archivio di Patologia e Clinica Medica, Bologna

7: 1-120 (March) 1928

Constitution and Tuberculosis. V. Fici.—p. 3.
*Splenectomy in Werlhof's Disease. F. Schiassi.—p. 73.
Pulmonary Actinomycosis. F. Schiassi.—p. 95.
*Babinski-Nageotte Syndrome. A. Conti.—p. 109.

Splenectomy in Werlhof's Disease.—Four months after the intervention, the patient, a woman, aged 40, stated that she felt well and that she had had no further hemorrhagic manifestations. The blood picture was almost normal, though the hemoglobin content was below normal. The histologic

examination of the extirpated spleen furnished evidence of a hemolytic condition and hyperplasia of the follicles.

Babinski-Nageotte Syndrome.—This syndrome is not rare. It affects chiefly men, aged from 50 to 70. Among the causes, the author mentions arteriosclerosis, syphilis, alcoholism and nephritis. It is one of the most frequent hemibulbar syndromes. The anatomicopathologic observations reveal in most cases a focus of softening, usually due to thrombosis, in the posterolateral portion of the upper part of the medulla oblongata. The author's patient was a man, aged 46.

Difesa Sociale, Rome

7: 1-39 (March) 1928

Origins of Etruscan Race. A. Ilvento.—p. 1.
Pregnancy in Relation to Work. A. Jannello.—p. 4.
*Iodine Prophylaxis in Endemic Goiter and Cretinism. G. A. Trikurakis. —p. 8.

Iodine Prophylaxis in Endemic Goiter and Cretinism.—Trikurakis reports that the results of iodine prophylaxis among the school children of the canton of Gignod during a four-year trial were generally favorable. Iodized chocolate wafers were administered by mouth, and in some schools inhalations of tincture of iodine were employed. The children showed more benefit the first year than during the next three years. The younger children reacted more favorably than the older children. In the more grave cases, with thyroid degeneration and hypofunction, thyroid extracts gave good results. The results in cretinism were very encouraging. While geographic environment may cause enlargement of the thyroid, other factors favor degeneration and lead to cretinism, such as: squalor, alcoholism, consanguinity, hereditary syphilis. In all the families affected with cretinism, the author found evidence of at least one of these factors. The majority of the children with the more protrusive goiters are the offspring of alcohol addicts. Consanguineous marriages are the cause of most of the severe cases of cretinism.

Rassegna Internazionale di Clinica e Terapia, Naples

9: 161-244 (March) 1928

Use of Trichloro-Acetic Acid for Determination of Albumin. E. U. Fittipaldi.—p. 163.
*Renal Hematuria in Tuberculosis of Renal Parenchyma. M. Cilento. —p. 169.
*Soy Bean Milk. L. Vitale.—p. 180.

Renal Hematuria in Tuberculosis of the Renal Parenchyma.—Cilento reports three cases in which hematuria preceded all other clinical manifestations of the infection. He says that a hematuria that develops without a known cause in a person (whether of a habitus phthisicus or not) who has been losing weight for some time, should suggest the possibility of a tuberculous infection. Signs of renal hemorrhage are almost never absent in the parenchymal types of infection, if the urine is microscopically examined when the lesions are fresh.

Soy Bean Milk.—Vitale extols the soy bean from the agricultural standpoint, as it requires little cultivation, thrives on mediocre soil, stands a drought well, and enriches the soil with atmospheric nitrogen. As a food, it is perfectly harmless, and differs from other legumes in that it constitutes a complete food, containing proteins, carbohydrates and fats, also vitamin B. In China, and in other countries of Asia, soy bean milk has been used extensively since remote times in the feeding of children. If prepared under proper conditions of cleanliness soy bean milk is a wholesome food. It keeps better than animal milk, although it also has a rich microflora.

Medicina, Mexico City

8: 245-274 (March) 1928. Partial Index

Cancer of Uterus. C. Zuckermann.—p. 259.
*Treatment of Cervicitis with Electrocautery. F. Robles.—p. 264.

Treatment of Cervicitis with Electrocautery.—Robles observed that simple ulcerations of the cervix do not yield easily to treatment. The author applies to the entire surface of the ulcer a knife of his own design heated to red heat. After this, treatments are given every five or six days, consisting in vaginal washing and painting with iodine and silver nitrate, to form nascent silver iodide, or painting with phenol, 50 per cent, and iodine. This method has the advantage that it is painless.

Deutsches Archiv für klinische Medizin, Leipzig

159: 129-256 (March) 1928

Lactic Acid Content of Blood After Lactic Acid Injection in Experimental Injury to the Liver. K. Beckmann and T. Mirsalis.—p. 129.
Acid-Base Balance and Osmotic Resistance of Erythrocytes. S. Weiss and S. Sümegi.—p. 147.
Dependence of Specific Dynamic Action in Man on Diet. D. Jahn and E. Strössenreuther.—p. 152.
*The Origin of the Crescendo Murmur in Mitral Stenosis. K. Eimer.—p. 164.
*Treatment of Acute and Chronic Rheumatic Polyarthritis with Amidopyrine. R. Bodenstab.—p. 171.
Electrocardiogram in Thyroid Disease. W. Franke.—p. 180.
Aneurysm of Heart Ventricle. R. Jaksch-Wartenhorst.—p. 197.
Obesity of Endogenous Origin. P. Jaguttis.—p. 204.
Method of Determination of Hexophosphoric Acid in Blood in Normal and in Diabetic Individuals. H. Lawaczeck.—p. 223.
Atypical Case of Diabetic Coma. T. Weiss.—p. 235.
Kidney Function Test on Basis of Acid or Alkali Deficiency. F. Lebermann.—p. 241.
Use of Fruit Juices in Gastric Ulcer. K. Berlet and H. Dennig.—p. 246.

Origin of the Crescendo Murmur in Mitral Stenosis.—The author describes a case presenting typical symptoms of mitral stenosis, in which, at autopsy, there was found a myxomatous tumor of the left auricle. The tumor lay in front of the mitral valve and acted as an obstruction. The valves were not diseased. From a consideration of the mechanics of the heart it appears that the murmur could occur only in the stage of diastole. Brockbank's theory that the crescendo murmur of mitral stenosis occurs in the systole is not borne out in this case.

Treatment of Acute and Chronic Rheumatic Polyarthritis with Amidopyrine.—The author treated cases of acute, subacute, and chronic rheumatic polyarthritis with amidopyrine. Eleven cases were treated with amidopyrine only, twelve were treated with amidopyrine and salicylates alternately. He concludes that amidopyrine in doses of from 2 to 3 Gm. daily is a valuable remedy in acute and chronic arthritis. The remedy can be given for months without untoward results. In spite of large doses and long duration of the treatment, he has observed only exceptionally such complications as headaches, dizziness, nausea and anorexia. One patient with chronic arthritis took 2.5 Gm. of amidopyrine daily for ten months without any untoward symptoms. It relieved pain, but was not able to cure cases of gonorrheal arthritis or of sciatica. The author considers amidopyrine at least as efficient as sodium salicylate.

Deutsche medizinische Wochenschrift, Berlin

54: 551-598 (April 6) 1928. Partial Index

*Familial Splenic Anemia. R. Mühsam.—p. 551.
New Apparatus for Giving Various General Anesthetics. H. Franken. —p. 553.
Causes and Prevention of Explosions with Anesthetic Acetylene. H. Wienecke and K. Schroeder. —p. 556.
Possibility of Producing Anesthesia in Man by le Duc's Current. S. Lieben.—p. 564.
Parenteral Sulphur Injection in Treatment of Arthritis Deformans. C. Häbler and N. Weitzenfeld.—p. 566.
Improvement of Plastic Operation for Pendulous Cheeks. J. Joseph —p. 567.
Healing and Functional Restoration of Foot Severed Except for Thin Soft Parts Bridge. W. Bender.—p. 568.
Correction of Projecting Ears. W. Kosch.—p. 569.
*Treatment of Hemorrhoids with Injection of Alcohol. B. Eldering. —p. 569.

Familial Splenic Anemia.—Two cases of Gaucher's disease, in a brother and sister, are reported by Mühsam. The diagnosis was confirmed by bone puncture, which he considers safer than puncture of the spleen. In the man, splenectomy was performed with good results. In the woman, the liver and spleen are both very large and the operation would be a difficult one; hence it will be performed only if unavoidable.

Treatment of Hemorrhoids with Injection of Alcohol.—According to Eldering, Boas' method of treating hemorrhoids with alcohol injection does not possess the advantages over cauterization that are claimed for it. Ambulant treatment by this method seems particularly unsafe to him.

54: 599-642 (April 13) 1928. Partial Index

Further Development of Psychotherapeutic, Particularly Psychanalytic Technic. E. Kretschmer.—p. 599.
Position of Psychotherapy in Medicine. J. H. Schultz.—p. 601.
Physiology and Pathology of Sexuality in Involution Period. Fürbringer. —p. 605.

V 90
1928

Experiments in Determination of Tuberculin Potency. H. Hetsch, H. Schlossberger and F. W. Wichmann.—p. 607.
Cancer Research. Teutschländer.—p. 610.
Modern Medicinal Treatment. H. Handovsky.—p. 612.
Medicinal Treatment by Suppositories and Enemas. G. Joachimoglu. —p. 614.
Liver Diet in Twelve Cases of Pernicious Anemia. W. Löwenberg and C. Gottheil.—p. 615.
*Case of Concretio Pericardii Successfully Operated On. A. Läwen and M. Matthes.—p. 617.

Case of Concretio Pericardii Successfully Operated On.—In the case reported by Läwen and Matthes, the patient, a woman, aged 24, had had pains in the left side of the chest for three years, with gradually increasing cardiac insufficiency which had led to engorged liver, ascites, pleural effusions and slight edemas of the lower extremities. The diagnosis and the indication for operation were based on the fact, that the cervical veins were full and did not empty even in the upright position; they presented only systolic collapse, not the double, systolic and diastolic, collapse described by Volhard. In the main, Schmieden's technic was followed; through a large window in the thorax the thickened pericardium was dissected from the heart muscle and removed. The operation was completely successful. Histologic examination of the excised specimen showed nonspecific induration with considerable deposition of calcium.

Deutsche Zeitschrift für Nervenheilkunde, Leipzig

103: 1-112 (March) 1928

Rhythmic Phenomena in Nervous System. H. de Jong.—p. 1.
*Iron in Brain: Diagnostic Value. F. Struwe.—p. 10.
Paths for Ascent of Air from Spinal Canal to Cerebral Ventricles and Resorption of Air from Ventricles. W. Jacobi and H. Winkler. —p. 42.
*Epilepsy with Peculiar Attacks. D. A. Schamburov.—p. 58.
*Case of Anthrax Meningomyelo-Encephalitis with Unusual Course. A. Hanse.—p. 67.
Use of Sodium Nucleinate in Treatment of Neurosyphilis and Chronic Inflammations of Central Nervous System. J. Donath and L. Naményi.—p. 78.
Physicochemical Study of Cerebrospinal Fluid. L. Teschler.—p. 87.
Technic of Cell Count of Cerebrospinal Fluid. K. Neidhardt.—p. 98.

Iron in Brain: Value in Diagnosis.—Struwe regards the presence of iron in the brain as positive evidence of general paralysis and never of cerebral syphilis. It is present in large quantities in paralysis. He suggests the possibility of making a cerebral puncture to obtain iron-containing material.

Epilepsy with Peculiar Attacks.—The peculiarity of the attacks in Schamburov's case consisted of a primary unpleasant sensation in the upper arm, followed by spasmodic twitching of the body, similar to that produced by the galvanic current, beginning in the lower part of the body and progressing toward the head. These twitchings followed rapidly on each other—every few seconds—for from fifteen to twenty minutes. The body was drawn from side to side and forward. The patient was forced to flex the knees. Finally, he became unable to walk without assistance and had speech difficulties. The entire attack lasted three or four hours. Afterward he was entirely normal.

Case of Anthrax Meningomyelo-Encephalitis with Unusual Course.—On the eighth day after infection with anthrax, Hanse's patient developed a pustule on the wrist. He was not very ill. Blood cultures were positive for anthrax bacillus. Serum therapy was futile. Five days later he presented typical symptoms of meningitis. The spinal fluid was bacteriologically negative for anthrax. This state of affairs continued for three or four weeks, when the patient gradually manifested symptoms of Korsakow's psychosis. He had severe pains in the legs and was hardly able to walk. The man recovered from all his symptoms except the unsteadiness of the legs. Hanse tested out all of his reflexes and on the basis of his observations concludes that there were multiple foci of inflammation in the central nervous system.

Endokrinologie, Leipzig

1: 161-240 (March) 1928

*Hyperfunction of Liver in Exophthalmic Goiter. N. Pende.—p. 161.
Biologic Method of Determination of Thyroid Activity in Animals. B. Zawadovsky and M. Nowikova.—p. 167.
Development of Genital Organs and Body Size in the Feeble Minded. W. Lange.—p. 174.
Ovarian Hormone and Blood Calcium. M. Reiss and K. Marx.—p. 181.

Hyperfunction of the Liver in Exophthalmic Goiter.—Pende tested the function of the liver in patients with exophthalmic goiter or hyperthyroidism, especially as to the formation of urea, amino-acidemia after intravenous injection of glycocoll, alimentary glycemia, cholesteremia after administration of cholesterol and formation of bile. The results of the tests indicated clearly a state of hyperfunction of the liver. He believes that an analogy between the innervation of the thyroid and that of the liver may be assumed: that the influence of the vagus on the liver is in the direction of glycogenesis, and on the thyroid in the direction of preparation and accumulation of the secretion; that the sympathetic, on the other hand, acts in both organs as the nerve of mobilization or discharge.

Klinische Wochenschrift, Berlin

7: 721-776 (April 15) 1928. Partial Index

Nature of Medical Profession. E. Meyer.—p. 721.
*Influence of Sympathetic on Voluntary Muscles. E. Magnus-Alsleben. —p. 737.
Circulation in So-Called Fatty Heart. L. Lauter and H. Baumann. —p. 741.
Influence of Muscular Activity in Increasing Effect of Insulin on Blood Sugar in Normal and Disturbed Carbohydrate Metabolism. M. Bürger and H. Kramer.—p. 745.
*Blood Sugar in Arterial and Venous Blood. G. Rosenow.—p. 750.
Registration of Heart Tones: Embryocardia. A. Benatt.—p. 752.
*Treatment of Inoperable Malignant Tumors with Isamine Blue. H. Bernhardt.—p. 756.

Influence of Sympathetic on Voluntary Muscles.—Starting from the observation that vital staining in an extremity is more intense when the afferent sympathetic innervation is excluded, Magnus-Alsleben investigated the vasoconstrictor apparatus in frogs. He was able to confirm his earlier opinion that the main cause of the phenomenon above noted was the exclusion of a vasoconstrictor apparatus governed by the sympathetic. He found, furthermore that not only the arterioles but also the capillaries of the muscles are controlled by sympathetic vasomotor nerves. Exclusion of the sympathetic led to increased permeability as well as to dilatation of the vessels. In muscles deprived of sympathetic innervation, metabolism was altered (ammonia, glycogen and lactic acid, increased; lactacidogen, decreased). This was probably due not only to vascular action, but also to direct nervous influences. Rheobasis, chronaxia and Tiegel's contracture were tested after sympathetic denervation; the first two were found unchanged, the last was considerably prolonged.

Blood Sugar in Arterial and Venous Blood.—Making simultaneous determinations in the blood of the radial artery and in that of an arm vein, Rosenow found that, in persons without metabolic disturbances, the sugar values were always higher in the arterial than in the venous blood. In patients with diabetes, this difference was not apparent.

Treatment of Inoperable Malignant Tumors with Isamine Blue.—Eighteen patients with inoperable malignant tumors of various organs were treated by Bernhardt with intravenous injections of isamine VI B, a sulphonated tri-B-naphthylpararosaniline. Ten were distinctly improved, eight were unimproved. By improvement Bernhardt understands better general condition, disappearance of cachexia, increase of appetite and strength and retrogression of individual symptoms, such as ascites and lymph stases; in five cases there was retrogression of the tumor itself. The improvement has been maintained in all for about six months. Three women who received seventy, fifty-six and thirty injections, respectively, have maintained their improvement for more than a year. Ovarian carcinomas reacted better than gastric and intestinal carcinomas. A disadvantage of the method, occasional blue discoloration of the skin, particularly in patients with injury to the liver, can be overcome, except in the last named group of patients, by previous intravenous injection of eosin. The plan of treatment followed was, in its general features as follows: first day, intravenous injection of 5 cc. of a 1 per cent solution of eosin; on the next seven days, eosin treatment continued, dose 10 cc.; two days' rest; eleventh day, intravenous injection of 5 cc. of a 0.5 per cent solution of isamine blue plus 1 cc. of glycerin; twelfth day, 10 cc. of isamine blue solution plus 2 cc. of glycerin; on the next six days, 20 cc. of isamine blue solution plus 4 cc. of glycerin; two days' rest; on the next six days, the same treatment as before the interval; two days' rest; on the next six days, the same treatment; two days' rest. The course

finishes with treatment with colloidal lead sulphide (dose, 5 cc. of a 1:1,000 solution) in three nine-day series, the series being separated by two-day rest periods. This plan may be varied according to the patient's strength. The total dose of isamine blue should be from 2.5 to 3.0 Gm. Improvement is not seen earlier than three or four weeks after beginning treatment. After three or four months, it is wise to give prophylactic treatment consisting of about one third the number of injections in the first series.

Monatsschrift für Kinderheilkunde, Leipzig

38: 193-288 (March) 1928

Congenital Malformation of Extremities: Incomplete Amelus. M. Nichamkina.—p. 193.
*Diagnostic Value of Electrocardiography in Heart Diseases of Children. T. Bungartz and H. Dressen.—p. 202.
*Symptoms of Meningitis Parotidea. L. Fábián.—p. 210.
Differential Diagnosis of Dysentery in Infants. S. Rosenbaum.—p. 213.
Postinfluenzal Neuritis in Early Childhood. M. Frank.—p. 215.
Stridor Thymicus. I. Roth.—p. 223.
Psychologic Studies of Effect of Sea Climate on the Young. H. Voigts. —p. 225.
Allergy and Strophulus (Foot Rash). D. Karplus.—p. 234.
Orthostatic Aciduria. E. Faerber and T. Demetriades.—p. 243.

Diagnostic Value of Electrocardiography in Heart Diseases of Children.—Bungartz and Dressen relate the case of a boy, aged 8, who had an aortic stenosis with emboli in the blood vessels of the brain and heart. On the basis of electrocardiograms, an unfavorable prognosis was made.

Symptoms of Meningitis Parotidea.—In the course of an epidemic of mumps, Fábián saw three cases of parotitic meningitis which resembled closely tuberculous meningitis. One child died. The necropsy disclosed chronic caseous tuberculosis. Clinically, these three cases resembled tuberculous meningitis, and, except for the absence of tubercle bacilli, the cerebrospinal fluid was exactly like that of tuberculous meningitis.

Münchener medizinische Wochenschrift, Munich

75: 633-680 (April 13) 1928. Partial Index

*Point of Attack of Liver Diet in Pernicious Anemia. H. Schulten. —p. 633.
*Anisocytosis of Pernicious Anemia and Its Relation to Liver Diet Treatment. T. Lind.—p. 635.
*D Hypervitaminosis. H. Kreitmair and T. Moll.—p. 637.
Allergy and Eosinophilia. A. Uffenheimer.—p. 639. C'td.
*Treatment of Rickets with Milk Irradiated in Carbon Dioxide Atmosphere. K. Scheer.—p. 642.
Irradiated Animal Milk in Prophylaxis and Treatment of Rickets. J. Schoedel.—p. 644.
Iodine and Goiter. W. H. Jansen.—p. 645.
Importance of Blood Sugar Determinations in Diabetes; Action of Synthalin. R. Stahl.—p. 647.
Silent Immunization Against Yellow Fever. W. H. Hoffmann.—p. 649.
*Culture of Carcinoma Cells in Vitro. A. Fischer, F. Demuth, H. Laser and H. Meyer.—p. 651.
Acute Cardiac Death and Strophanthin Death. H. von Hoesslin.—p. 652.
Diagnosis of Paraganglioma of Suprarenals. C. Hirsch.—p. 655.

Point of Attack of Liver Diet in Pernicious Anemia.—Schulten holds that the direct action of liver in pernicious anemia is to stop blood destruction rather than to promote blood regeneration. After improvement began he never saw signs pointing to the continuance of abnormal blood destruction; neither did he see, in the second half or in the height of the remission produced by liver diet, signs of increased blood regeneration. He explains the heightened regenerative activity as follows: The most powerful stimulus to the formation of new blood is deficiency in hemoglobin. In pernicious anemia this stimulation cannot take effect, because the toxin inhibits regeneration. Once the toxin is made harmless by the liver diet, regeneration can set in with an energy corresponding to the anemia.

Anisocytosis in Pernicious Anemia and Its Behavior After Treatment with Liver.—Lind saw considerable diminution in the number of macrocytes in all his thirteen cases treated for an adequate time with liver diet, but the decrease was not as great as that reported by American investigators. In none of his cases, did the macrocytosis entirely disappear, but he points out that the periods of observation are still relatively short.

D Hypervitaminosis.—Kreitmair and Moll's animal experiments show that vitamin D is not indifferent from the toxicologic point of view. Administration of very large doses produced a hypervitaminosis, manifested in accelerated metabolism, particularly of calcium. In certain species of animals, calcium was deposited in large quantities at the sites predisposed to such deposit. The dose necessary to accomplish this varied for different animal species. For human beings, however, there exists no danger of vitamin poisoning, since ingestion of vitamins in enormous quantities over long periods of time would be necessary.

Treatment of Rickets with Milk Irradiated in Carbon Dioxide Atmosphere.—About sixty children with rickets have already been treated by Scheer with milk exposed to ultraviolet rays in a carbon dioxide atmosphere. The last twenty-four of the series are here reported on. All are cured, in process of cure or much improved, except one who was removed prematurely. With a daily quantity of from 300 to 600 cc. of irradiated milk, florid rickets was cured in from four to eight weeks without other treatment. In eighteen premature infants, prophylactic treatment with from 10 to 25 Gm. of irradiated milk daily was carried out with success. The results were not influenced by the season of the year, and no injurious effects were seen. The cost of the treatment, till cure, was about one tenth that of direct ultraviolet irradiation. Milk irradiated in a carbon dioxide atmosphere does not have an unpleasant taste or odor.

Culture of Carcinoma Cells in Vitro: A One Year Old Strain.—Pieces of a mouse inoculation tumor were cultivated in vitro over a period of one year. About 10,000 cultures were made in from 120 to 130 passages. The carcinoma culture grows in membranes that are typical for epithelial cells, without liquefying the membranes. Fischer and his co-workers made a series of experiments with this carcinoma strain. The carcinoma tissue kept its malignancy in vitro as long as cells remained alive. The carcinoma cells were able to build up their cytoplasm from completely heterologous material. They were able to go on living in a heterologous medium without embryonal extract or proteoses; in fact, they proved as sensitive as leukocytes to an excess of these substances. The carcinoma tissue was able to construct its cell substance entirely out of the constituents of plasma. Carcinoma cells grew faster in vitro than other tissue varieties, including leukocytes, even in a medium which was optimal for these tissues. Carcinoma tissue in vitro was more sensitive to acidification than normal tissue. At p_H 6 it ceased to grow. It was also more sensitive than normal tissue to lowering of the oxygen tension. It grew relatively well with slight increase in the oxygen tension but perished more rapidly than normal cells if the oxygen tension was much increased. Carcinoma cells were able to utilize the type-specific intracellular principles of other cell varieties. They grew luxuriantly in contact with normal tissue cells in culture media that were protective for the normal cells.

Zeitschrift f. d. ges. Neurologie u. Psychiatrie, Berlin

113: 487-811 (March 28) 1928. Partial Index

Incidence of Dementia Praecox in Grandchildren of Schizophrenics. A. Juda.—p. 487.
Pathogenesis of Migraine. H. Richter.—p. 604.
Athetoid Movements in Tabes Dorsalis. P. Schilder and E. Stengel. —p. 613.
Pathogenesis and Pathologic Anatomy of Congenital Chorea. E. Kononova.—p. 687.
*Roentgen Irradiation of the Cranium in Epilepsy. T. Bársony and L. Balassa.—p. 757.
*Roentgen Irradiation of Ovaries in Menstrual Psychoses. N. I. Bondarew.—p. 770.
Hypertrophic Cervical Pachymeningitis. W. W. Michejew and E. M. Pavljutschenko.—p. 797.
*Rare Cases of Multiple Sclerosis. F. Voigt.—p. 804.

Roentgen Irradiation of the Cranium in Epilepsy.—Bársony and Balassa have used roentgen irradiation of the cranium in epilepsy for years. A typical case is described, that of a boy, aged 8, who had been subjected to epileptic seizures since the age of 3 weeks. Phenobarbital and sodium bromide were used with temporary success, but a state was reached in which the condition became worse in spite of the regular administration of these drugs. A series of roentgen irradiations of the cranium was therefore given, after which he was free from seizures for five months. The attacks always reappear after a period of months, however, and in order to maintain a permanent result the irraditions must be repeated at definite intervals.

Treatment of Menstrual Psychoses by Roentgen Irradiation of the Ovaries.—In the treatment of depression

V 90
1928

occurring during menstruation, Bondarew prefers roentgen irradiation of the ovaries to pharmaceutic and organ preparations, because it is more direct. The quantity and duration of the menses serve as indicators of the function of the ovary and this function can be diminished or abolished at will with roentgen irradiation. Unless the irradiation has been excessive, the suspension of ovarian function is only temporary. The return of the menses, fortunately, is not always accompanied by a return of the mental disturbance.

Rare Cases of Multiple Sclerosis.—Voigt reports two unusual cases of multiple sclerosis. In the one, the initial latent period lasted twenty-seven years, the longest ever reported. In the other, the lumbosacral segments of the cord were involved, an extremely rare localization.

Zeitschrift für Krebsforschung, Berlin

26: 361-438 (March 28) 1928

*Treatment of Inoperable Tumors with Isamine Blue. H. Bernhardt and C. B. Strauch.—p. 361.
Experiments in Genesis of Carcinoma. C. B. Strauch and H. Bernhardt. —p. 370.
The Influence of Vital Staining with Trypan Blue on Growth of Grafted Mouse Carcinoma and Sarcoma. W. Munck.—p. 377.
*Effect of Radium on Experimental Tar Cancer (and on Its Developmental Stages). G. Stoel.—p. 386.
Parasites in Carcinoma. E. Rehorn.—p. 404.
Fibroma (Spindle-Cell Sarcoma) in Oviduct of a Salmon. P. Freudenthal.—p. 414.
Sarcoma Formation in Fascial Cysticercus of a Rat. F. Heim.—p. 418.
*Histologic Prognosis of Malignant Growths. A. Kahlstorf.—p. 420.

Treatment of Inoperable Tumors with Isamine Blue.—See abstract under same title in this issue, page 2069.

Effect of Radium on Experimental Tar Cancer.—The normal skin and the hypertrophied skin of tar carcinoma in a white mouse were exposed to radium irradiation in such a way as to cause, after a certain time, the death of these tissues. The normal skin proved to be more resistant than the cancerous skin. The microscopic changes were as follows: changes in the number and character of mitotic figures, disappearance of mitotic figures with no manifestation of cell division, appearance of abnormal mitotic figures, changes in the nuclei of the tumor cells and, lastly, necrosis. These changes varied in intensity only, becoming more and more pronounced as one proceeded from the normal skin toward the cancer. Nuclear changes and necrosis likewise appeared earliest in the carcinoma and latest in the normal skin. The selective destructive effect of rays on carcinoma was thus demonstrated.

Histologic Prognosis of Malignant Growths.—The presence of numerous and irregular karyokinetic figures in the nuclei of tumor cells speaks for a rapid growth and a bad prognosis. The same is true of tumors made up of cells containing very small nuclei. Hemorrhage and necrosis are regarded as signs of rapid growth. The distinction between embryonal cells and anaplastic cells (cells that have lost their differentiation) has a significance, in that anaplastic cells grow more rapidly than embryonal. Leukocytic infiltration of the stroma is a favorable sign. Recent experiments point to the fact that the lymphatic system exercises a retarding influence on the growth of a neoplasm. The author warns that a histologic examination to determine the degree of malignancy should include various portions of the tumor, because the state of growth of a given tumor varies in its different parts.

Zeitschrift für Tuberkulose, Leipzig

50: 113-192 (March) 1928

*Primary Tuberculous Infection in Childhood. E. Rominger.—p. 113.
Protective Inoculation of the New-Born Against Tuberculosis with B C G. A. Calmette.—p. 120.
Technic of Preparation of B C G. A. Calmette.—p. 124.
*Pleuritis in Tuberculosis. W. May.—p. 131.
Intrapleural Pressure. H. Winterstein.—p. 137.
Compulsory Hospitalization of Patients with Open Tuberculosis. F. Ickert and A. Dronsch.—p. 141.
Influence of Koumiss Treatment on Morphologic Blood Picture in Tuberculosis. N. A. Kramow.—p. 151.
Influence of Friedman's Mass Inoculations on Tuberculosis Mortality Statistics. E. Szalai.—p. 159.

Primary Tuberculous Infection in Childhood.—Five weeks after the onset of a febrile attack, suggestive of typhoid, in a child, aged 6, Rominger saw the tuberculin reaction change suddenly from completely negative to distinctly positive. The tuberculin test had been made on repeated occasions during past years as well as during this illness and had always resulted negatively. The roentgenograms of the lungs made four weeks after the onset resembled that described by Redeker for "primary infiltration in the acute stage." Roentgenograms were made daily and rapid disappearance of the abnormal shadows was noted. The source of infection was discovered in a visiting relative with open pulmonary tuberculosis. The infection must have taken place from twelve to forty days before the first clinical symptoms; from twenty-nine to forty-seven days before the appearance of the tuberculin sensitiveness. The child recovered and has remained well. In a second case, a child, aged 6½, was thoroughly examined by the author and found nontuberculous. Two months and two weeks later the child was again brought to him. She had been in frequent and prolonged contact for about two weeks with a child who had, immediately thereafter and six weeks before this examination, been discovered to have open pulmonary tuberculosis. The girl was greatly changed since the first examination, tired, without appetite and of sick appearance. The change had been noted for two weeks; she had had a slight fever for a few days. On auscultation of the lungs, the breath sounds in the left interscapular space and in the axillary fossae were found to be distinctly sharper than normal. Nonresonant, moderately vesicular, moist rales, were heard in the left axilla and below the right axilla. In the roentgenogram a soft, cloudy shadow, the size of a small apple, was distinctly seen at the left of the vertebral shadow, just above the heart. It was densest in the caudal portion. The contours were not sharp. There were no sharply demarcated "gland shadows" or "focus shadows." Neither was there any trace of a bipolar shadow. The tuberculin reaction was strongly positive. The condition in the lungs remained unaltered for two months, but the general condition improved in fourteen days. After two and one-half months, the soft, round shadow had diminished in size. The contours were sharper and the shadows deeper. In both hili sharply demarcated "gland shadows" were seen. The tuberculin reaction was still strongly positive. The slight cough had disappeared and the child had gained in weight. In this case the tuberculin reaction was positive fifteen days after the onset of symptoms, and from forty to sixty days after the infection. The roentgenograms are reproduced.

Position of Pleuritis in Clinical Picture of Tuberculosis.—The serous pleuritides that occur, though rarely, in connection with the primary focus are usually mild. Local adhesive pleuritis belongs to the picture of a long continuing or healed primary focus. In the allergic (Ranke's secondary) stage, pleuritis is much more frequent, and may appear as pleuritis sicca ad basim, especially in children, or pleuritis humida. Of great importance are the pleuritides derived from tuberculosis of the hilus glands, among which interlobar pleuritis holds a prominent place. Pleuritis originating in the second stage by hematogenous metastasis is usually benign. In the third stage, Ranke's isolated phthisis, the opportunities for the occurrence of pleuritis are slighter. Sudden involvements of the pleura no longer occur, but more or less circumscribed pleural tuberculosis is found, with serofibrinous inflammation, ending in adhesive pleuritis and induration, or else exudative pleuritis in connection with bronchogenic aspiration infection of the lower fields. Idiopathic primary pleuritis is, in May's opinion, almost exclusively tuberculous in origin and a symptom of active tuberculosis. The fact that it is mainly an allergic perifocal inflammation explains the negative outcome of animal inoculations. As to the favorable influence of pleuritis on the basic disease, this is temporary and explainable on mechanical grounds.

Zentralblatt für Gynäkologie, Leipzig

52: 857-920 (April 7) 1928

Charcoal Treatment of Febrile Abortion, Placental Polyps and Puerperal Endometritis. W. Benthin.—p. 858.
Therapeutic Solutions of Active Principle of Anterior Lobe of Pituitary. C. Rath, H. U. Hirsch-Hoffmann and H. Wulk.—p. 865.
Traction on Umbilical Cord as Aid in Expressing Placenta. E. Sachs. —p. 866.

Incision of Pelvic Floor as Aid in Difficult Labor. A. Rieck.—p. 868.
*Thyroid Treatment of Milk Retention. L. Kraul.—p. 873.
*Injection of Solution of Pituitary in Third Stage of Labor. H. Schröder.—p. 874.
Fracture of Clavicle of the New-Born in Spontaneous Delivery. K. Adler.—p. 879.
Backache and Pyriformitis. H. Jentter.—p. 883.
Pathogenic Significance of Hypomenorrhea. S. Pieck.—p. 885.

Thyroid Treatment of Milk Retention.—Kraul reports good results with thyroid treatment in cases in which a child was not to be nursed and when, therefore, use of a breast pump was inadvisable because it stimulates the flow of milk. Unfavorable symptoms, noted in connection with long courses of thyroid treatment, did not appear; there probably was a greater tolerance for thyroid because of the hyperexcitability of the parasympathetic system and the lessened activity of the endocrine glands in the puerperium. The treatment can also be used to relieve premenstrual swelling of the breast.

Injection of Solution of Pituitary in Third Stage of Labor.—Prophylactic injection of solution of pituitary in the third stage of labor is not without danger, since it may cause precipitate and incomplete expulsion of the placenta. Schröder cites a case in illustration. As the effect of pituitary is very rapid, it is advisable to wait until there is indication for its use. After the placenta has been expelled, the injection of solution of pituitary is without danger and it is useful in cases of hemorrhage due to atony, and as a safeguard against infection.

52: 985-1048 (April 14) 1928

Legislation Affecting Gynecologists. Vollmann.—p. 922.
*Abdominal Puncture in Obstetrics and Gynecology: Diagnostic and Therapeutic Value. T. Heynemann.—p. 932.
Culture of Endometrium. K. Heim.—p. 939.
Bacteria in Blood in Puerperal Fever. K. Sommer.—p. 942.
*Expectant Treatment of Febrile Abortion. C. Clauberg.—p. 947.
Menorrhagia Resulting from Incomplete Expulsion of the Endometrium. H. Baniecki.—p. 955.
*Treatment of Umbilical Hemorrhage in the New-Born by Blood Transfusion. E. Lindqvist.—p. 961.
*Unusual Case of Infection in the New-Born. E. Schlesinger.—p. 963.
Pregnancy Continuing in Duplex Uterus After Curettage of Nonpregnant Half. B. Kaminsky.—p. 967.

Abdominal Puncture in Obstetrics and Gynecology: Diagnostic and Therapeutic Value.—Having resorted to puncture to an increasing extent during the years 1919 to 1927, Heynemann is convinced of its value from the diagnostic standpoint and also, though to a lesser degree, from the therapeutic standpoint. He believes that the dangers have been overstressed. In more than 700 cases of puncture, including nearly 200 where puncture was employed because of suspected abscess in Douglas' culdesac, there was not a single dangerous accident. Out of 246 cases in which puncture was made on suspicion of tubal pregnancy, in 230 the diagnosis was confirmed; in two cases information was lacking; in fourteen the test failed. Typical Douglas abscess was found in 156 out of 192 suspected cases. In cases of adnexal swelling, he employed puncture for therapeutic purposes to an increasing extent, but without a corresponding increase in successful results. Whereas in 1927, puncture was used in 18 per cent of these cases, the author would now consider it advisable in not more than 10 per cent.

Expectant Treatment of Febrile Abortion.—A comparative study of the effectiveness of the quinine-solution of pituitary treatment of febrile abortion as compared with mechanical interference was made by Clauberg. Of 371 cases, 242 were without intra-uterine complications, and in 166 of these cases there was spontaneous evacuation within three days. Further treatment with quinine and solution of pituitary resulted in complete evacuation in from four to seven days in twenty-five more cases. In twenty-five cases, because of profuse bleeding, mechanical evacuation of the uterus was resorted to while the patient was in a febrile condition. Twenty-five cases were treated surgically in the absence of fever, because of incomplete expulsion. In one case, in which death followed incomplete expulsion (there having been no surgical interference), it was later learned that the patient had attempted to interrupt her pregnancy with a rusty needle. Out of fifty-eight cases with transuterine complications, surgical intervention was resorted to in eight cases, because of dangerous hemorrhage. The outcome was fatal in twenty-four out of the fifty-eight cases. The author summarizes the bacteriologic findings in the 371 cases.

Treatment of Umbilical Hemorrhage in the New-Born by Blood Transfusion.—In the case described by Lindqvist, hemorrhage began nine days after a normal birth, the umbilical cord having been spontaneously cast off. After various measures had been tried without avail for six days, 25 cc. of the mother's blood, which had been found to belong to the same group as that of the child, was injected into the longitudinal sinus. The hemorrhage stopped immediately, and after a few weeks the child was apparently perfectly well.

An Unusual Case of Infection in the New-Born.—The child in the case described by Schlesinger was apparently normal at birth. Cyanotic attacks began suddenly on the second day. On the fourth day, suppuration was observed in the salivary glands. In the next two days it increased rapidly. The abscess was incised and drained and the next day the child died. The necropsy showed burrowing phlegmon extending into the anterior mediastinum with inflammation of the right pleura and purulent bronchitis. The history of the mother failed to account for the infection. Labor was complicated by myoma; forceps were used in delivery, and the placenta was removed manually; but not until the fifth and sixth days, when the temperature was 37.7 C., was there any fever. This slight rise was considered as due to a secondary infection (of the breast) transmitted from the child. Not until the twelfth day was a bacteriologic examination made; then the findings—hemolytic staphylococci, hemolytic streptococci, and colon bacilli—were like those of the child. The possibility of infection through the genital tract could not be excluded, but the writer considers it more probable that infection came from the outside. The case is interesting because of its obscure pathogenesis and because it shows the discrepancy in resistance between the adult and the new-born child.

V 90
1928

52: 985-1048 (April 21) 1928

Injuries to Women in Reproduction. H. Sellheim.—p. 986.
*Oral, Especially Odontogenous, Infection of the Puerperal Uterus. H. Sachs.—p. 991.
Chemical Examination of Menstrual Blood. A. Rona and O. Waldbauer.—p. 997.
Use of Terms "Premenstrual" and "Pregravid" as Applied to Uterine Mucosa. H. Meyer-Rüegg.—p. 1005.
*Changes in Functional Condition of Skin in Pregnancy (Insensible Perspiration). Sidorow.—p. 1006.
Isolated Torsion of Pedicle in Tubal Pregnancy: Two Cases. A. Mandelstamm.—p. 1009.
Attempted Criminal Abortion Between Seventh and Eighth Months of Pregnancy Followed by Normal Birth. H. Kemkes.—p. 1013.
"Conjugata Lateralis." Reply. J. Koerner.—p. 1015.

Oral, Especially Odontogenous, Infection of the Puerperal Uterus.—Sachs describes a case of puerperal sepsis traced to infected teeth. The same bacteria were found in the lochial discharge and in the pus of the decayed teeth, as well as in the nose of the new-born child. These bacteria had remained inactive up to the time of delivery. After extraction of the decayed teeth, the mother made a rapid recovery. There was some question as to whether it was a case of focal infection or one of contact infection. In any event it shows that infection from the teeth may be transmitted to the pregnant uterus. The author advises that the oral cavity should be examined regularly for pus.

Changes in the Functional Condition of the Skin in Pregnancy (Insensible Perspiration).—A comparative study carried out according to Galeotti's method showed a decrease in insensible perspiration during pregnancy. In ten normal nonpregnant women, on 1 sq. cm. of the skin of the forearm the insensible perspiration amounted to 0.107 Gm. in one hour at a room temperature of 20 C. In pregnant women the perspiration was found to diminish; for example, in the first and second months, for normal pregnant women it was 0.092 Gm.; in the eighth month, 0.087 Gm., and at the end of pregnancy, only 0.074 Gm. Five pregnant women suffering from toxicosis were studied; the insensible perspiration was minimal—from 0.050 to 0.062—except in one case, in which it amounted to 0.104 Gm., this being explained as due to a rise in temperature to 37.7 C. The fact that the perspiring function of the skin is lowered during pregnancy, reaching its greatest impairment in toxicosis, makes the care of the skin of great importance from the prophylactic standpoint.